S
336.2
L72m
pt.4

PART 4 HUMAN RESOURCES ANALYSIS

MONTANA TAX STUDY

MONTANA. TAX STUDY TASK FORCE

LIBRARY
UNIVERSITY OF MONTANA

Montana State Library
3 0864 1004 5515 6
LIBRARY
UNIVERSITY OF MONTANA

MONTANA TAX STUDY

PART FOUR

HUMAN RESOURCE ANALYSIS

by

William D. Diehl
Director of Research, State Board of Equalization

A staff paper submitted through the Tax Study Task Force to the Montana Legislative Council Subcommittee on Taxation.

Members of the Task Force of Economists:

William D. Diehl, Ph. D.
Howard H. Lord
Maurice C. Taylor
Layton S. Thompson, Ph. D.
Robert F. Wallace, Ph. D.
John H. Wicks, Ph. D.
Robert W. Worcester

Members of the Subcommittee on Taxation:

Sen. Carl Rostad, Chairman
Rep. Thomas Judge, Secretary
Sen. Kenneth Cole
Sen. Edward Dussault
Rep. James R. Felt
Rep. Harold Gerke
Sen. William R. Mackay
Rep. Ray J. Wayrynen

This paper has been published and disseminated solely for the information of the general public. It has not been approved, accepted, or rejected by the Subcommittee on Taxation or the Montana Legislative Council as part of its final report to the Legislative Assembly.

This Chapter is devoted to the analysis of human resources as they relate to revenues and expenditures of county and state governments in Montana. The purposes of this Chapter are: (1) to point out and emphasize the implications of some of the important changes in the quantity and quality of human resources as they relate to revenue and expenditure problems and as they relate to economic growth, and (2) to develop data that are useful in projecting revenues and expenditures at the county and state levels of government.

Montana's population grew about 14 percent from 1950 to 1960. Thirty-two counties had increases and 24 counties had decreases in population during the 10 year period. Changes in population in an area such as a county or the state can occur in three ways: (1) net migration, either in or out, (2) births, and (3) deaths.

Although migration is a direct cause of population change, migration itself may be an indirect result of population change. If economic conditions in the labor market of an area are that the natural increase in population (excess of births over deaths) does not provide the needed laborers, then net in-migration in response to higher wage rates will result. On the other hand, if the natural increase in population produces more people than are needed to fulfill labor force requirements, wage rates will tend to fall and people will migrate out of the area. If wages are not flexible and/or if workers are not mobile, unemployment may take the place of out-migration. Even in cases where no net migration is observed a substantial interchange of population is possible. For example, if industry requirements in an area are such that only highly trained, experienced laborers are needed, the young people with little training and experience may migrate out in the same numbers as the in-migrants who are experienced and highly trained.

Changes in the numbers of people in counties and the state in the past have resulted in age composition changes. That is, the proportions of populations in school, work force and retirement age brackets have changed. If age composition changes are large they may result in problems of financing public service commitments at the county and state levels of government.

For example, if population changes result in large absolute and relative increases in school age and retirement age populations, existing physical facilities and governmental financing arrangements may become inadequate to support public service obligations to these segments of the population. If additional needs are not met, then the quantity of public services per capita will have to decline. This decline in per capita public service expenditure may lower the quality of public services.

It should be noted that the change in dollar expenditures for government services required by a change in the number of recipients is only one of several factors involved. Two other factors that determine dollar expenditures for government services are: (1) increased price of services due to increases in the price level and better quality of services, and (2) increases in the variety of services required or demanded by the people. We are not directly concerned with service prices and new services in this Chapter. The primary concern here is with the effect of changes in population on revenues. If population changes result in reducing the absolute and relative population in working age bracket, the per capita burden of a given level of government service expenditures will increase.

In addition to having relevance for expenditure levels, age composition changes may be significant for revenues. Table 1 shows average median earnings of people by age and education classes in the Western United States for 1950 and 1960. In both 1950 and 1960 persons 35 to 64 years old had higher earnings than those in other age classes regardless of their educational attainment. The differences are more marked if earnings by those 35 to 64 years old are compared with those less than 35 and greater than 64 years old. If population changes result in proportionately fewer people in this age group, average incomes "other things equal" will be smaller than would otherwise be the case. Smaller average incomes have both direct and indirect effects on tax revenue. The effects on income tax revenue are more or less direct, depending on how closely the income tax base is related to average incomes. In any case, lower average incomes are expected to result in lower income tax revenue.

Since consumption is closely related to income, there is an indirect effect of lower average incomes on excise and property tax revenues. Consumption purchases, including food, clothing, medicine, automobiles, recreation, houses and other

real property, will be lower with lower average incomes. Therefore excise tax revenues and property tax revenues will be lower than with higher average incomes.

Table 1. Average Median Earnings of Persons by Age and Education Classes in the Western United States for 1950 and 1960.[a]

Age Class	Years of School Completed					
	0-7	8	9-11	12	13-15	16 +
14-17						
1950	339	304	303	419	325	--
1960	610	576	578	719	727	--
18-24						
1950	941	1216	1238	1497	902	1126
1960	1045	1529	1478	2023	1770	2517
25-34						
1950	1565	1844	2027	2395	2483	2904
1960	1939	2909	3276	3821	4064	5207
35-44						
1950	1761	2125	2330	2661	2913	3866
1960	2353	3362	3787	4420	4908	6599
45-64						
1950	1702	1997	2224	2639	2869	4068
1960	2217	3198	3733	4373	4886	7011
65-74						
1950	889	1123	1317	1616	1751	2606
1960	1270	1577	1878	2128	2395	4097
75 +						
1950	626	703	828	1027	1111	1531
1960	1110	1245	1385	1459	1650	2589

[a]The data for Table 1 were taken from U.S. Bureau of Census, U.S. Census of Population: 1950, Vol. IV, Characteristics of the Population, Special Reports, Part 5, Chapter B, Education, Table 13, p. 128, and from U.S. Bureau of Census, U.S. Census of Population: 1960, Subject Reports, Educational Attainment, Final Report, PC(2)-5B, Table 6, pp. 110-135.

Since Montana has experienced a decline in the proportion of population in the working age group, and because this is relevant to our revenue and expenditure problems at state and local levels of government, the causes of the reduction are analyzed.

Table 1 also shows that those people who have not completed grade school had lowest earnings in each age group. Also, the average earnings increase more rapidly with age the higher the educational attainment. For example, the average college graduate in 1960 25-34 years old earned about a third more than the high school graduate in the same age class, while the average college graduate 45-64 years old earned about two-thirds more than his high school graduate counterpart. Thus, the benefits of education become higher as people get older, and this fact has important revenue and expenditure implications. On the revenue side, the higher the level of educational attainment, the larger the per capita contribution of people for support of public services as they get older, other things remaining the same. On the expenditure side, there is an increasing tendency of students to pursue higher levels of education. This is partly a result of recognition of the additional benefits accruing to increased productivity resulting from additional education and training. Increased enrollments and individual enrollments for longer periods of time have obvious expenditure implications.

The subsequent analysis in this chapter is devoted to determining the changes in population, labor force, educational attainments and economic activity in Montana that have occured in the past. This analysis of changes will provide a better understanding of the revenue and expenditure situation in Montana. Projections of Montana county and state populations and labor forces are made for 1970. Past changes will provide a basis for interpreting changes indicated by projections of population and labor force to 1970.

The Chapter is divided into six parts. First, the relative importance of the three factors (births, deaths and migration) which determine changes in populations is analyzed. Second, projections of populations are made by age classes for the counties and the state. Third, an analysis of changes in the labor force during the last two decades is made; occupational and industry participation of the labor force is stressed. Fourth, labor force projections to 1970 are made for counties and for the state. Fifth, an analysis is made of the education characteristics of the adult populations of the counties and the state. Sixth, the influence of geographic migration from

1950 to 1960 on the proportions of the population in each education class is computed for the state.

BIRTH, DEATH AND MIGRATION INFLUENCES ON POPULATION CHANGES

The primary interest in population changes in the Montana Tax Study centers on the impact of population changes on the levels and patterns of state and county revenues and expenditures.

The procedure for isolating the effects of births, deaths, and migration on the age distribution of the population is as follows: First, the percentage that each of 18 age classes is of the 1950 and 1960 populations was computed. That is, the number of people in each age class was divided by the total population. Second, the differences in the percentages in each age class from 1950 to 1960 were computed. This was done by subtracting the percentages in 1960 from the percent in 1950. Before subtracting the percentages in 1960 from those in 1950 the age classes were arranged so that the percentages in both years refer to the same population (see columns 1 and 2 in Table 2). For example in Table 2, a person in age class 15-19 years old in 1950 would be 25-29 in 1960. Thus, the percent on a line in the 1960 age distribution would be a comparison of the relative numerical importance of the same population (in terms of age) in the two years. In the discussion, reference is made to the 1960 age class unless otherwise specifically stated, but where the age class given is the age in 1960 it is equally applicable to an age 10 years younger in 1950. Third, the number of people living in 1950 expected to survive until 1960 (expected survivors) was computed by multiplying the survival rate of each of 16 age classes in 1950 times the number of people in those age classes. For example, about 98 percent of the people 25-29 years old in 1950 are expected to survive until 1960. Thus, .98 times the number of people 25-29 gives the number of people expected to survive to age 35-39 in 1960. The number of expected survivors in each age class was divided by the total number of expected survivors for the state to get the percent the survivors in each age class made of the total survivors. Survivors out of the births that occurred during the decade were excluded from this distribution because the change in the age distribution due to deaths of those living in 1950 is the change we are trying to isolate. The percentages of the age distribution of survivors subtracted from the percentages of the age distribution of the 1950 population yields what will be henceforth noted as the "death effects on population change."

Fourth, the number of those born during the 1950 to 1960 decade expected to survive to 1960 was computed. That is, the survival rate of those born from 1950 to 1954 times the number born gives the expected survivors 5-9 years old in 1960. The same was done for those born from 1955 through 1959. The survivors in age classes 0-4 and 5-9 years old were included (added to) the distributions computed in the third step. The percentages of survivors in each age class were computed again, but in this case the two lower age classes (0-4 and 5-9 years old) were included. The only differences in the percentages of expected survivors excluding births during the decade and the percentages of survivors including births is effect of births. The percentages of survivors including births were subtracted from the percentages of survivors excluding births to get what are designated herein as the "birth effects on population change." Fifth, the percentages of population observed in 1960 were subtracted from the percentages of survivors including births which are termed "migration effects on population change" from 1950 to 1960.

Table 2 shows the results of computations isolating the effects of deaths, births and migration on the population from 1950 to 1960. It should be noted that the algebraic sums of the deaths, births and migration effects (Columns 6, 7 and 8) are equal to differences 1950-1960 shown in column 5 of Table 2. Thus, the differences in the percentages of population from 1950 to 1960 are totally accounted for by the three components of population change, namely, deaths, births and migration in each age class.

For the purposes of discussing the impact of the three components of population change, three age brackets denoted school age, working age and retirement age and are labeled brackets I, II, and III, respectively. Bracket I includes those ages below 20 years old, bracket II includes those ages 20 through 64 years old, and brackett III includes those ages 65 years old and older in 1960. All discussion will be in terms of the 1960 age classes.

Before discussing the impact of the three components of change on age brackets I, II, and III, there are some significant facts about their effects on all age classes combined (see Figure 1). First, death effects added to the proportion of population in age classes 10 through 59 years old and detracted from the proportion of population above 60 years old (see column 6, Table 2). This result would be anticipated because the death rates are much lower in younger age classes than in older age classes. Second, birth effects added to the

Table 2. Age Distributions of Montana's Population in 1950 and 1960, Differences in Age Class Percentages from 1950 to 1960, and Death, Birth and Migration Effects on Population Change from 1950 to 1960.[a]

1 Age 1950	2 Age 1960	3 Age Class Percentages 1950	4 Age Class Percentages 1960	5 Differences 1950-1960	6 Death Effects	7 Birth Effects	8 Migration Effects
	0-4		12.32	+12.32	0.00	+12.32	0.00
	5-9		11.42	+11.42	0.00	+11.42	0.00
)-4	10-14	11.54	9.94	- 1.60	+0.94	- 2.96	+0.42
-9	15-19	9.37	7.52	- 1.85	+0.76	- 2.40	-0.21
0-14	20-24	7.87	5.87	- 2.00	+0.61	- 2.02	-0.59
5-19	25-29	6.88	5.76	- 1.12	+0.50	- 1.76	+0.14
0-24	30-34	7.06	6.18	- 0.88	+0.51	- 1.80	+0.41
5-29	35-39	7.48	6.34	- 1.14	+0.52	- 1.90	+0.24
0-34	40-44	7.66	6.40	- 1.26	+0.49	- 1.93	+0.18
5-39	45-49	7.29	5.92	- 1.37	+0.38	- 1.82	+0.07
0-44	50-54	6.35	4.94	- 1.41	+0.21	- 1.56	-0.06
5-49	55-59	5.44	4.22	- 1.22	+0.02	- 1.29	+0.05
0-54	60-64	4.86	3.48	- 1.38	-0.18	- 1.11	-0.09
5-59	65-69	4.87	3.38	- 1.49	-0.44	- 1.05	0.00
0-64	70-74	4.73	2.99	- 1.74	-0.80	- 0.93	-0.01
5-69	75-79	3.71	1.92	- 1.79	-0.90	- 0.67	-0.22
0-74	80-84	2.36	0.91	- 1.45	-1.02	- 0.32	-0.11
5 +	85 +	2.53	0.49	- 2.04	-1.60	- 0.22	-0.22
	TOTAL	100.00	100.00	0.00	0.00	0.00	0.00

Source: Age Class Percentages for 1960 were computed from U.S. Bureau of Census, U.S. Census of Population: 1960, General Population Characteristics, Montana, Final Report, PC(1) - 28B. Table 16, p. 24.

proportion of the population in only two age classes, 0-4 and 5-9 years old. Birth effects generally detracted less and less from the proportion of the population in age classes the older the age classes except in age classes 30-34, 35-39 and 40-44 years old in 1960. Third, migration effects added to the proportion of population in seven age classes. Five were in the 25 through 49 age range. Migration effects were either zero or negative in all age classes above 60 years old. Fourth, birth effects, ignoring algebraic sign, were more than twice as large as either deaths or migration effects in all age classes below 60 years old.

Birth, Death and Migration Effects on Age Brackets I, II, and III.

The data in Table 2 are summarized into age brackets I, II and III in Table 3. In age bracket I the total change in the proportion of the population is +20.29 percent. Of that total increase, birth effects accounted for 18.38 percent, death effects accounted for 1.70 percent, and migration accounted for 0.21 percent.

In age bracket II the total change in the proportion is -11.76 percent. Birth effects again dominated the effects and detracted 15.19 percent from the percent of the population 20-64 years old. Death and migration effects are +3.06 percent and +0.35 percent, respectively.

The total change in the percentage of the population in age bracket III is -8.51 percent. Death, birth and migration effects were -4.76 percent, -3.19 percent and -0.56 percent, respectively, all contributing to the 8.51 percent reduction of the proportion of the population 65 years old and older.

It has been hypothesized by Larry Sjaastad that out-migration alters age distributions such that there are proportionately fewer people in the productive age groups.[1] The results shown in Table 2 do not support this hypothesis. The data in Table 2 indicate that migration had little to do with altering the age distribution of Montana's population from 1950 to 1960. Births are by far the most important factor contributing to the increase in the ratio of the dependent population (brackets I and III) to the total population (brackets I, II and III) of 11.78 percent from 1950 to 1960 (see column 1, Table 3).

---

1. Larry A. Sjaastad, "Migration and Population Growth in the Upper Midwest: 1930-1960," Upper Midwest Economic Study, Study Paper No. 4, p. 4.

Table 3. The Total Change in the Percentages of Population, Deaths, Births and Migration Effects from 1950 to 1960 in Montana's Population Change.

Age Bracket	Differences 1950-1960	Death Effects	Birth Effects	Migration Effects
I (0-19)	+ 20.29	+ 1.70	+ 18.38	+ 0.21
II (20-64)	- 11.78	+ 3.06	- 15.19	+ 0.35
III (65 +)	- 8.51	- 4.76	- 3.19	- 0.56
Total	0.00	0.00	0.00	0.00

The influence of deaths and migration on revenue and expenditure problems in the State of Montana through their impact on Montana's age distribution is not important. Both death and migration effects increased the proportion of the population in age bracket II greater than in bracket I. Hence, neither deaths nor migration are responsible for increasing the ratio of the dependent population to the total population. The birth effect is significant for revenue and expenditure problems since it is entirely responsible for the decline of 11.78 percent in the proportion of the population in age bracket II. The primary problem is that the birth effect causes the school age population to grow much more rapidly than the working age class while the per capita burden of education on the working age population has increased.

Census data for 1960 indicate that 53.53 percent of the population of the United States as a whole was in age bracket II. In Montana the percentage of the population in age bracket II was 49.11 percent in 1960. If the proportion of Montana's population in age bracket II had been the same as for the United States in 1960, Montana would have had 30,000 more people in age bracket II and, conversely, 30,000 fewer people in age brackets I and III. This would amount to about 15,000 people more in the labor force, since about one-half the people 20-64 years old are in the labor force. In addition to the fact that 15,000 people are not, given the 1960 ratio, earning income and accumulating property to be taxed, they are in school or retired.

These groups generally require more public expenditures. It is reasonable, in view of the evidence in this analysis, that the difference in proportions of population in age bracket II in Montana and the United States is due largely to the differential influences of birth effects from 1950 to 1960, although migration effects in past decades may be a factor.

Population Changes and Property Tax Revenue

Net migration may change the amount of personal property (automobiles, etc.) and the value of real property (houses, etc.). At the state and county levels, changes in the amounts of personal property are relevant only when the property is moved out. The loss in assessed value of automobiles due to migration, estimated for the state, was over 5 Million Dollars from 1950 to 1960.[2] Yellowstone County gained about 2.5 Million Dollars in automobile assessed value and Flathead County lost about 650,000 Dollars in assessed value due to migration from 1950 to 1960.

Changes in the value of real property due to migration are well known. In counties experiencing out-migration intense enough to deplete the population base, real property values, particularly residential and commercial property, decline. Changes in farm land values might offset declines of other property values. In counties experiencing growth in the population base due to in-migration, real property values increase. Changes in real property values are important in the county tax bases.

Reflections of changes in real property values are closely related to the reappraisal and assessment process. The bulk of the real property assessed at the county level was appraised between 1958 and the present. Appraisals should account for changing market conditions. Trends in economic activity and population growth should be reflected in real property values. As a practical matter, the staff available to review and adjust

---

2. The number of automobiles per person in 1960 was computed. This ratio times the number of net civilian migrants provides an estimate of the number of automobiles that would have been in the state had no migration occurred. The product of the average assessed value of automobiles and the number of automobiles that would have been in the state had no migration occurred is an estimate of the loss in assessed value.

appraisals to current trends determines the rapidity with which adjustments can be made. Hence, lags in adjustment of assessed valuations to changing economic and demographic conditions are sufficiently long to support the hypothesis that changes in real property values are important only in the long run, say 5 to 10 years. However, changes in mill levies are subject to annual changes within limits.

At the state level the net effect of population shifts within the state on real property valuation is probably small because of the tendency for values in growing counties to increase while values in declining counties decrease.

POPULATION PROJECTIONS

Population projections are useful for a variety of reasons, and the reasons in large part determine the method required in making projections. Projections of Montana's population have been made by the State Planning Board and the North Star Research Institute. Independent projections are made here, not because existing projections are necessarily wrong, but because they are not useful for the purpose of The Montana Tax Study.

Both of the projections mentioned above have in common the lack of age class data. For the purposes intended in The Montana Tax Study it is essential to know the projected age distributions of county and state populations. Some of the reasons for age class projections in this study are: (1) to ascertain the size of the productive population (labor force) and (2) to evaluate change in the school age and retirement age populations. Therefore, it is important from the point of view of revenues and expenditures at the county as well as at the state level, to know the projected population by age classes.

Projections of county populations by the State Planning Board were based entirely upon the assumption that county population growth (percent change) from 1950 to 1960 would be the same in each county from 1960 to 1970. The sum of the county projections, or the state projection is 770,900 for 1970.[3]

The North Star Research and Development Institute projected Montana's population to be 856,000 by 1976. This implies a

---

3. Mimeo, Montana State Planning Board, Helena, Montana.

decennial growth rate of 16.1 percent from 1960.[4] This population growth rate implies that Montana population will be 783,000 by 1970.

Making population projections requires reasonable and therefore justifiable assumptions about future trends in: (1) births, (2) deaths and (3) migration. Future populations may be projected accurately if rates of natality, mortality and migration occur at assumed or predicted levels or if these rates remain constant over time. Certain factors are evident about vital rates.

For the nation as a whole it is generally accepted that birth rates are falling and will continue to fall due to new and more effective contraceptive measures. In Montana the crude birth rate (births per thousand population) fell from 26.4 in 1950 to 25.9 in 1960.[5] Also, due to improved medical techniques and modern drugs, the death rate is expected to decline. In Montana the death rate (deaths per thousand population) fell from 9.8 in 1950 to 9.7 in 1960.[6]

Net migration rates (change in population due to geographic movement divided by the initial population) are not so easily projected because they are much more sensitive to changing economic conditions. Net migration from Montana during the

---

4. Dale E. Roth and William V. Williams, "Factors Influencing the Economic Growth Rate of Montana," North Star Research and Development Institute, Minneapolis, Minnesota, 1964, p. 8.

5. Montana State Board of Health, "Annual Statistical Supplement 1963," Table 1, p. 3.

6. Ibid., p. 3. By 1963 the crude birth rate had dropped to 22.5 and the death rate fell to 9.3. Changes in crude rates however may be somewhat deceptive because of the base from which they are computed. For example, in the case of the crude birth rate, if the proportion of women 20-29 years old is higher in one period than another, the crude birth rate would be higher in one period than in another. This is because of the much higher age-specific birth rates of women 20-29 years old. The same is true for crude death rates. If a large proportion of the population is old the death rate will be high. In other words, the crude rates depend not only on births and deaths but on the composition of the population.

1940-1950 decade was 43,000 people and for the 1950-1960 decade it fell to around 25,000 people. The rates of net out-migration were 7.69 percent and 4.23 percent, respectively, for the two decades. The change in rates of migration between the two decades demonstrates the chief weakness of using events and trends of the past as a basis for projecting the future. If the rate for the 1960-1970 decade was based on the decline in rates in the two previous decades, considerable errors may be introduced into the projections because the rate in the decade of the 1940's was related to the high migration of people during the war.

Assumptions Made in These Projections

The period 1950 to 1960 is used here as the basis for projecting population to 1970. During the 1950's we experienced neither a full scale war nor a depression that would have radically disturbed vital rates, especially births and migration. The projections are prepared under the assumptions that we will not experience a severe depression in this decade, and that the Viet Nam War will not drain our population any more than did the Korean War. Therefore, the same birth rates, death rates and migration rates will exist from 1960 to 1970 as from 1950 to 1960.

In most instances more than one projection would be made using alternative methods and assumptions. In this case, however, due to the limitations of time and money, it is feasible to make only one projection.

State projections by age class for 1970 are shown in Table 4 along with the census populations for 1950 and 1960. Projections for the counties appear in Appendix Table 1. Age classes correspond more or less with school age, working age and retirement age populations.[7]

Montana's population is projected to increase by 96,454 people from 1960 to 1970 compared to the actual increase of 83,743 from 1950 to 1960. The projected increase in the elementary school age bracket for 1960 to 1970 is 16,592, about 21,387 less than was experienced during the 1950-1960 decade. The projected increase in the high school age bracket is 15,123, or 4,827 more than the 1950 to 1960 increase. Of the school age brackets, the greatest increase in population is in the

---

7. The initial data were in sixteen age classes, but in the Appendix they appear in fewer but more meaningful age classes.

Table 4. Population of the State of Montana for 1950, 1960 and Projected to 1970 by Age Classes and Indexes by Age Classes Where 1950 = 100.

Age Classes	1950	Index	1960	Index	1970	Index	Diff. 1950-1960	Diff. 1960-1970
er 5 Pre. School	68201	100	83102	121	91748	135	14901	8646
3 Ele. School	91702	100	129681	141	146273	160	37979	16592
17 High School	44873	100	44869	130	59992	174	10296	15123
21 College	32942	100	36138	110	53666	163	3196	17528
64 Work Force	312742	100	315557	101	350677	112	2815	35120
+ Ret. Ages	50864	100	65420	129	68865	123	14556	3445
als	591024	100	674767	114	771221	130	83743	96454

college age bracket (18-21 years old). The projected increase in the college age bracket is 17,527, or 14,332 greater than from 1950 to 1960. The increase in the age bracket 22-64 years old is projected to be 35,120, or 32,935 greater than the increase from 1950 to 1960.

The projections were made for a census period and therefore do not indicate the yearly magnitudes expected. That is, data for 1961 through 1969 are not reported. To get estimates of population between 1960 and 1970 we may interpolate between the 1960 data and the 1970 projections. For example, the total population is expected to be 771,221 in 1970, whereas it was 674,767 in 1960. The difference in the 1960 and projected 1970 population is 96,454. An average annual increase of 9,645 is expected and may be used, in most cases, if annual data are needed. According to this scheme the population in July of 1965 in Montana was 722,992 people.

The projections for 1970 should be interpreted as indicating what the population would be in 1970 if the assumptions are realized. Some county projections will not be realized because of altered migration patterns. For example, Silver Bow County experienced out-migration of 8,138 people from 1950 to

1960 for a rate of 14.9 people per 100 population. If this rate of out-migration falls or if there is actually in-migration to Silver Bow County, the population projection will not be realized and will in that case be too low. There are other counties in which migration rates will be different from 1960 to 1970 than they were from 1950 to 1960. For example, some counties that experienced in-migration from 1950 to 1960 will experience out-migration from 1960 to 1970 and vice versa. The only way that the projections herein could be justifiably altered would be to contact employers in the counties and find out what their expectations with respect to employment would be over the decade from 1960-1970. It is hypothesized that counties experiencing reverse trends in migration in the 1960 to 1970 decade will more or less offset one another, and that the projection for the State will be more reliable than for the individual counties.

LABOR FORCE ANALYSIS

Knowledge of labor force characteristics, including size, growth, sex, age, and industry and occupational participation, is basic to an appraisal of Montana's current economic situation and its potential economic growth. Labor has always been an important factor in the processes of production. It has become evident over the last decade that numerical changes in the labor force in industries and occupations are not a satisfactory measure of the importance of labor in production. Developments in technology have reduced the direct man-hour requirements of labor substantially, not only in agriculture but in other industries as well.[8] However, output per man-hour in agriculture has steadily increased so that total output of the industry has increased. This means that the economic capabilities of the labor in agriculture have increased. Some of the increase in capability of farm labor has been due to more efficient inputs such as machinery, fertilizers and seeds. These inputs require researchers to develop them, workers in manufacturing and workers to distribute and sell them, and workers to maintain them. These improved inputs also require an increased capability of labor in agriculture.

---

8. Labor is used here in the inclusive sense in that it encompasses farm managers, operators and laborers.

The increases in the capability of labor to adapt to and use new inputs are a result of higher levels of educational attainment, experience and training in the use and operation of older inputs, and more complete information about effective use and knowledge of the benefits from using the new inputs. Increases in capability of labor all require some costs such as public and private school expenditures, loss of production time while gaining on-the-job training and experience, advertising through the conventional media, extension adult aducation, and farm input firm representatives. These costs, sometimes termed investments in human beings, are present in every industry in every production process in which people are associated.[9] Numerous examples exist in other industries. Innovations in electronic data processing, for example, have well-known implications for both the quantity and quality of labor in nearly all industries.

Thus, it is evident that knowledge of the characteristics as well as the size of the labor force is important for gaining some perspective about Montana's economic growth and therefore revenue and expenditure problems.

Labor Force Growth - 1940 to 1960

The labor force includes three categories: employed civilians, unemployed civilians and those in the armed forces.[10] All persons classified as employed include "all persons 14 years old and over who were either at work, those who did any work for pay or profit, or were with a job but not at work, and those who did not work and were not looking for work but had a job or business during the census week of enumeration." Those unemployed include "all persons 14 years old and over and not at work but looking for work during the census week of enumeration."

---

9. See Theodore W. Schultz, "The Economic Value of Education," Columbia University Press, 1963, and Gary S. Becker, "Human Capital - A Theoretical and Empirical Analysis With Special Reference to Education," National Bureau of Economic Research, Columbia University Press, 1964.

10. U. S. Bureau of the Census, U. S. Census of Population: 1960. General Social and Economic Characteristics, Montana. Final Report PC(1)-28C, p. XIX. The civilian labor force excludes members of the armed forces. The census week was in February of 1960

Figure 2 illustrates the growth in population and labor force in Montana from 1920 to 1960. Montana experienced a decline in population and labor force from 1920 to 1930. This has been explained by the "localized drought and depression in agriculture" that began after 1920.[11] From 1930 to 1960 the total population of the State increased 137,161 while the male population increased only 49,995. The increase in male population accounted for about 36 percent of the total population increase. The female population increased 87,166 during the period 1930-1960.

The total labor force grew 38,228 from 1930 to 1960. The male labor force fell from 183,945 to 181,021, indicating that the female labor force grew 41,152 during the 30 year period. Thus, population and labor force changes from 1930 to 1960 were a result of increases in female population and labor force participation.

A large share of the increase in females in the labor force is due to the changing nature of Montana's industrial mix. In the early part of the Twentieth Century, Montana's economy was a "frontier economy" consisting primarily of farming, mining and logging; industries in which heavy labor was required. Montana's economy during the past three decades has experienced expansion in trade, service and government (including education) industries, in which women have found more extensive employment opportunities.

Table 5 is a summary of the labor force status of Montana's population (14 years old and older) by age and sex for 1940, 1950 and 1960. The participation rates in Table 5 are the labor force in each age and sex class divided by the population in each age and sex class for the respective years. The participation rates of males 14 years old and older declined, whereas those of females increased from 1940 to 1960. However, the participation rates of both males and females 14-24 years old increased from 1940 to 1960, but the increases were smaller from 1950 to 1960 than they were from 1940 to 1950. The same tendency is displayed for males and females in the age class 18-24 years old. The increases in male participation rates over time in

---

11. Carl F. Kraenzel and George Engstrom, "Montana's Population Changes 1920 to 1950 - Especially as to Numbers and Composition," Montana State College, Agricultural Experiment Station, Bulletin 520, June 1956, p. 5.

Table 5. Labor Force Participation Rates By Sex and Age in Montana, 1940, 1950 and 1960.[a]

Age	1940		1950		1950	
	Male	Female	Male	Female	Male	Female
Total 14+	80.2	19.1	80.1	25.3	77.5	32.6
14-17	14.8	4.8	30.4	15.3	33.5	23.6
18-24	78.6	34.8	79.7	36.2	80.1	38.8
25-34	96.0	21.9	93.3	24.2	95.6	28.9
35-44	95.9	19.5	95.5	29.7	96.8	38.8
45-64	91.9	17.9	88.8	27.2	90.5	41.3
65+	45.4	7.0	46.3	9.7	33.1	12.5

[a] Source: U. S. Bureau of the Census. U. S. Census of Population: 1960 General Social and Economic Characteristics, Montana. Final Report PC(1) - 28C, Table 54, p. 98.

young age classes are not what might be reasonably expected. For example, more and more young people are pursuing the higher levels of education required for modern employment opportunities, and this is expected to prolong the time that a young man or woman remains out of the labor force. Additionally, the farm to urban shift in population over the last two decades has resulted in more limited employment opportunities of family labor relative to those opportunities on farms. The participation rates of males 14-17 years old in the U. S. labor force has shown some decline between 1950 and 1960.[12] The increase in participation rates of women of all ages might be expected in view of the increased employment opportunities available through the farm to urban shift in population and the change in the industrial

12. The U. S. Department of Labor, "Manpower Report of the President and a Report on Manpower Requirements, Resources, Utilization and Training," March 1963, Table A-2, p. 140.

structure of Montana's economy. Increasing participation rates of women is a nationwide phenomenon.[13]

The participation rates of males plus females 14 years old and older has been relatively stable for the last three census periods even though there have been striking changes in age and sex specific participation rates as shown in Table 5. The over all participation rates (total labor force over 13 years old divided by total population over 13 years old) for 1940, 1950 and 1960 were 52.6 percent, 54.0 percent and 55.5 percent, respectively. We do not expect the over all participation rate of Montana's population to increase from 1960 to 1970 because of factors that tend to reduce it. These factors are: (1) the rural-urban shift in population, (2) the increasing tendency of young people to attend school and remain in school longer, and (3) earlier retirement. All of these factors should become more important in the years ahead.

Table 6 is a summary of the age composition of the Montana labor force in six age classes for 1940, 1950 and 1960. The number of persons in the labor force 14-17 years old grew 9,011 from 1940 to 1960 and the proportion of the labor force 14-17 years old increased to 5.10 percent in 1960 from 1.77 percent in 1940. This increase is largely due to the increased participation rates of people 14-17 years old.

The absolute and relative labor force size of those 18-24 years old declined from 1940 to 1960. Participation rates of those 18-24 years old increased from 1940 to 1960. This reflects the fact that the number of people 18-24 years old was larger in 1940 than in 1960

The number of persons in the labor force 25-34 years old declined in 1950 and 1960. The proportion of the labor force 25-34 years old declined because of the decline in the number of persons 25-34 years old and the increase in labor force in other age classes. The 50,424 people in the labor force 25-34 in 1960 will be 35-44 years old in 1970. Without in-migration or increased participation, the labor force in 1970, 35-44 years old, will be substantially less than the 58,357 in the labor force 35-44 years old in 1960.

The labor force 35-44 years old has shown a steady increase from 1940 to 1960. However, the proportion of the labor force in that age class remained relatively stable from 1950 to 1960.

---

13. Ibid., Table A-2, p. 140.

Table 6. The Number of Persons in the Labor Force by Age Class and Percentage Each Age Class is of the Total Labor Force, 1940, 1950 and 1960.[a]

AGE	NUMBER 1940	PERCENT 1940	NUMBER 1950	PERCENT 1950	NUMBER 1960	PERCENT 1960
14-17	3,974	1.77	7,685	3.35	12,985	5.10
18-24	41,430	18.41	33,020	14.39	33,826	13.30
25-34	53,934	23.97	52,760	22.99	50,424	19.82
35-44	41,579	18.48	51,360	22.38	58,357	22.94
45-64	73,472	32.66	69,825	30.42	84,091	33.05
65 +	10,605	4.71	14,875	6.48	14,718	5.79
Totals	224,994	100.00	229,525	100.00	254,401	100.00

[a]U. S. Bureau of the Census, U. S. Census of Population: 1960. General Social and Economic Characteristics, Montana. Final Report PC(1) - 28C, Table 54, p. 98.

Growth in the labor force 45-64 years old from 1950 to 1960 was 14,266. Also, the percent of the labor force in this age class increased 2.63 percent. Growth in the absolute and relative size of the labor force in age classes 45-64 years old is of major significance for State revenues and expenditures. The bulk of the highly trained, experienced labor force with high incomes are of this age class (see Table 1). Not only do people of these age classes contribute to the revenue of the State through income tax, but the average earnings shown in Table 1 indicate that especially people with high levels of education command high salaries.

The labor force 65 years old and older declined in both absolute and relative terms from 1950 to 1960. This is probably due largely to the decline in participation rates of people 65 years old and older.

Unemployment - 1940 to 1960

Since the labor force is defined to include both employed and unemployed labor, growth in the labor force, in and of itself, is not an adequate measure of the performance of the economic system in employing human resources. Until recently unemployment has been above the "accepted" level more or less continuously during the past decade. Reduction of unemployment has been a national goal since the depression of the 1930's and this goal was formally stated in the Employment Act of 1946. A myriad of federal programs in the past several years have been applied to problems of unemployment. Full employment policy has come to mean pursuit by the national government of a "high" and "stable" level of employment. The national policies have in the past encompassed both monetary and fiscal policy which have involved deliberate actions by monetary and fiscal authorities to add to or subtract from aggregate money demand for goods and services. Recently more direct actions have been taken to pursue the full employment goal through the Manpower Development and Training Act of 1962 (M.D.T.A.) Public Law 87-415, as Amended. Projects for training over 171,000 persons were approved under the M.D.T.A. program in 1964. Montana had 28 projects with 645 trainees in 1964.[14]

It is not the purpose of this analysis of the labor force to evaluate the effectiveness of these governmental programs in achieving the desired end. However, it is necessary (1) to know the extent and nature of unemployment in Montana, (2) to evaluate the significance of unemployment for labor force growth, and (3) to evaluate the revenue and expenditure implications of unemployment and related programs in which the state and local governments are participating.

It is difficult to define an acceptable level of unemployment of "full employment" (in terms of a rate of unemployment or employment). No universal agreement has been reached regarding this definition. We have no objective measure to determine what rate of unemployment would be feasible in a "free" society wherein the bulk of resources are allocated by the market mechanism. From 1947 through 1962 the U. S. economy achieved unemployment rates below four percent in six years. Many economists

---

14. U. S. Department of Labor, "Manpower Research and Training Under the Manpower Development and Training Act of 1962," A Report by the Secretary of Labor, March 1965. Table A-2, p. 178.

Unemployment - 1940 to 1960

Since the labor force is defined to include both employed and unemployed labor, growth in the labor force, in and of itself, is not an adequate measure of the performance of the economic system in employing human resources. Until recently unemployment has been above the "accepted" level more or less continuously during the past decade. Reduction of unemployment has been a national goal since the depression of the 1930's and this goal was formally stated in the Employment Act of 1946. A myriad of federal programs in the past several years have been applied to problems of unemployment. Full employment policy has come to mean pursuit by the national government of a "high" and "stable" level of employment. The national policies have in the past encompassed both monetary and fiscal policy which have involved deliberate actions by monetary and fiscal authorities to add to or subtract from aggregate money demand for goods and services. Recently more direct actions have been taken to pursue the full employment goal through the Manpower Development and Training Act of 1962 (M.D.T.A.) Public Law 87-415, as Amended. Projects for training over 171,000 persons were approved under the M.D.T.A. program in 1964. Montana had 28 projects with 645 trainees in 1964.[14]

It is not the purpose of this analysis of the labor force to evaluate the effectiveness of these governmental programs in achieving the desired end. However, it is necessary (1) to know the extent and nature of unemployment in Montana, (2) to evaluate the significance of unemployment for labor force growth, and (3) to evaluate the revenue and expenditure implications of unemployment and related programs in which the state and local governments are participating.

It is difficult to define an acceptable level of unemployment of "full employment" (in terms of a rate of unemployment or employment). No universal agreement has been reached regarding this definition. We have no objective measure to determine what rate of unemployment would be feasible in a "free" society wherein the bulk of resources are allocated by the market mechanism. From 1947 through 1962 the U. S. economy achieved unemployment rates below four percent in six years. Many economists

---

14. U. S. Department of Labor, "Manpower Research and Training Under the Manpower Development and Training Act of 1962," A Report by the Secretary of Labor, March 1965. Table A-2, p. 178.

have used four percent as an acceptable rate of unemployment because unemployment is unavoidable due to seasonal shifts in business activity, geographic movement of laborers and industries and voluntary occasional participation of some in the labor force.

Unemployment of the Montana civilian labor force for 1940, 1950 and from 1957 through 1964 is shown in Table 7. In 1940 the number unemployed as well as the rate of unemployment was more than twice as large as in any subsequent year reported. Additionally, unemployment has been above five percent in all but the last two years. To a large extent, changes in the unemployment rate are related to fluctuations in business ectivity.

Unemployment increased 5,120 from 1950 to 1960 whereas the civilian labor force grew 17,930. Thus, unemployment grew in an amount equal to 29 percent of the increase in the labor force from 1950 to 1960. Significant reductions in both the rate of unemployment and in the number of unemployed have occurred since 1961.

Unemployment may have only indirect significance for the income tax base.[15] Total personal income, which is directly related to the tax base, may rise, fall or remain constant with an increase in unemployment since the income per employed member of the labor force times the number employed of the labor force determines total personal income. Depending on changes in labor efficiency, per capita incomes of the employed labor force may rise, fall or remain the same when unemployment increases.

Probably the major factors relating to unemployment in Montana over the past two decades are the large farm to nonfarm migration and the slow rate of physical capital formation in the nonfarm economy. If, for example, the rate at which capital is invested in the nonfarm sector is "slow" and there is a large influx of workers from agriculture, it is suspected that either wage rates will fall, unemployment will increase, migration out of the state will occur, or all three will occur

---

15. From 1957 to 1963 net income tax collections in the state more than doubled. Some of the increase was due to changes in the income tax law, to improved administration and to higher personal income. There is no observable relationship between the number of income tax returns filed and the employed labor force during this period. But this does not imply that unemployment is unrelated to income tax collections.

Table 7. The Number of the Civilian Labor Force Unemployed and the Rate of Unemployment 1940, 1950, and 1957 through 1964 for the State of Montana.[a]

YEAR	TOTAL UNEMPLOYED	UNEMPLOYMENT RATE[b]
1940	39,430	17.6
1950	11,683	5.1
1957	13,000	5.2
1958	19,300	7.6
1959	14,900	5.9
1960	16,803	6.6
1961	17,500	6.9
1962	12,800	5.1
1963	12,100	4.8
1964	11,700	4.6

[a] Source: U. S. Census of Population: 1960 PC(1)-28C, Table 53, p. 98, and Unemployment Compensation Commission of Montana, "Montana Civilian Work Force," July 13, 1965.

[b] The unemployment rate is the total unemployed divided by the total civilian work force.

concurrently.[16] The explanation is consistent with what has happened in Montana, but there is no conclusive evidence that the rate of capital investment and high farm to nonfarm migration are determinants of the level of unemployment. It should be noted that large numbers of people have migrated from agriculture, large numbers of people have migrated from the state, and Montana has experienced large numbers of unemployed during the last two decades. The explanation suggested here relating to unemployment is tentative and exploratory, and will not be investigated empirically

16. For a theoretical discussion of the process see Charles Lemelin, "Migration and Economic Development." Canadian Journal of Agricultural Economics Vol. 13, No. 1, 1965, pp.36-54. See also Maurice C. Taylor, "Income Trends in Montana," Montana State University Agricultural Experiment Station Research Bulletin 590, October, 1964, and Maxine C. Johnson "Problems of Economic Growth in Montana," Montana Business Quarterly, Winter 1963.

in this study because of its scope.

Industrial Composition of Employment - 1940 to 1960

Large changes in employment have occurred in different industries in Montana since 1940. Table 8 shows the percent of the employed labor force in ten industrial groups, plus those not reported for 1940, 1950 and 1960. The most striking change is the 14.55 percent reduction in the proportion of the labor force employed in the agricultural, forestry and fisheries industry group from 1940 to 1960. The percent changes in the agricultural, forestry and fisheries industry group are dominated almost solely by employment changes in agriculture. The reduction shown in the agricultural industry group was among farm operators and unpaid family workers. The number of farm operators dropped from 34,317 in 1950 to 25,259 in 1960 and the number of unpaid family workers dropped from an annual average of 47,000 in 1950 to 39,000 in 1957.[17] The number of hired farm workers, however, remained reasonably stable from 1950 to 1957 in Montana.[18]

Farm to nonfarm migration in Montana from 1950 to 1960 was estimated at 46,773, whereas employment in agriculture dropped about 14,069 from 1950 to 1960.[19] Thus, for every person employed in agriculture in 1950 who changed employment status out of agriculture during the decade, there were 2.32 people who passively changed from farm resident status to nonfarm resident status during the decade.

The proportion of the labor force employed in maining declined in both decades previous to 1960. The drop in mining employment reflects both labor saving technological changes (copper mining) and shifts in consumer preference from coal to other fuels.

The proportion of the labor force employed in construction increased from 1940 to 1950 and declined from 1950 to 1960. Even

---

17. Montana Unemployment Compensation Commission, Montana - Counties - Manpower Guide Book, 1962, and U. S. Department of Agriculture, A.M.S., "Farm Employment Monthly, by States 1950-1957" Statistical Bulletin No. 236, Tables 14 and 31, pp. 28-35 and p. 45, respectively.

18. Ibid., Farm Employment Table 22, pp. 36-43.

19. See Appendix Table 2 for the estimates of farm to nonfarm migration from 1950 to 1960 for the counties and the states.

Table 8. Employment of Montana's Labor Force in Each Industrial Group, the Percent of Employed Labor Force in Each Industrial Group, 1940, 1950 and 1960, and Differences 1940-1950 and 1950-1960.[a]

Industrial Group	Employment and Percent 1940	Employment and Percent 1950	Employment and Percent 1960	Differences 1940-1950	Differences 1950-1960
Agr., forestry and fisheries	59,778 32.31	54,913 25.17	40,844 17.66	- 4,865 - 7.04	-14,069 - 7.51
Mining	13,526 7.29	9,301 4.26	6,782 2.93	- 4,225 - 3.03	- 2,519 - 1.33
Construction	8,838 4.76	14,772 6.77	14,911 6.45	+ 5,934 + 2.01	+ 139 - .32
Manufacturing	13,747 7.41	18,490 8.47	23,439 10.13	+ 4,743 + 1.06	+ 4,949 + 1.66
Transportation and utilities	14,883 8.02	22,503 10.31	21,013 9.09	+ 7,620 + 2.29	- 1,490 - 1.22
Wholesale trade	4,253 2.29	6,250 2.86	7,465 3.23	+ 1,997 + .57	+ 1,215 + .37
Retail trade	25,062 13.51	35,325 16.19	39,629 17.14	+10,263 + 2.68	+ 4,304 + .95
Finance, ins. & real estate	3,530 1.90	5,006 2.29	8,035 3.47	+ 1,476 - .39	+ 3,029 + 1.18
Services	24,043 12.96	29,732 13.63	38,985 16.86	+ 5,689 + .67	+ 9,253 + 3.23
Government	15,529 8.37	18,254 8.37	25,056 10.83	+ 2,725 0	+ 6,802 + 2.46
Not reported	2,375 1.28	3,634 1.67	5,111 2.21	+ 1,259 + .39	+ 1,477 + .54
Totals	185,564 100.00	218,180 99.99	231,270 100.00	+32,616 0.01	+13,090 0.01

Source: U. S. Bureau of the Census, U. S. Census of Population; 1940 - The Labor Force Vol. 3, Part 3, Table 20, p. 1006; 1950 - The Labor Force Table 84, p. 133; 1960 Detailed Characteristics. Final Report PC(1)-28 D. Table 125, pp. 245-250.

though the actual number of employed workers increased 139 from 1950 to 1960, the relative importance of employment in construction fell .32 percent.

The proportion of the labor force employed in manufacturing has been increasing slowly for the past two decades. The 2.72 percent increase in the proportion of the labor force employed in manufacturing was a result of two things. First, the large proportionate declines of employment in agriculture and mining alone tend to increase the relative importance of employment in manufacturing as well as other groups. Second, there has been an increase in the number of people employed in manufacturing of 9,692 from 1940 to 1960. Employment in manufacturing comprises about 10 percent of total employment in Montana.

Employment in the transportation and utilities industry group increased 7,620 from 1940 to 1950 but declined 1,490 from 1950 to 1960. The increase from 1940 to 1950 was partially responsible for the proportionate increase of 2.29 percent of the labor force employed in the transportation and utilities industry group. The decline in the number employed of 1,490 people from 1950 to 1960 contributed significantly to the 1.22 percent reduction in the proportion of the labor force employed in the transportation and utilities industry group.

In the wholesale and retail trade industry groups, employment rose 12,260 and 5,519, respectively, in the decades of the 1940's and 1950's. The decline in growth of employment in the wholesale and retail trades in the two decades is probably due in large part to the lower over all economic growth in Montana in the decade of the 1950's relative to economic growth in the 1940's. Growth of employment in the wholesale and retail trades is not closely related to population growth because the growth in population in Montana in the decade of the 1950's was more than twice that of the 1940's. The major decline in growth of employment was in retail trade. Some technology was adopted, namely, self-service super markets, during the 1950's which, in addition to slower over all economic growth, reduced labor requirements in the retail trade industry group.

The finance, insurance and real estate industry group, although comprising only 3.45 percent of the employed labor force, doubled in growth of employment from the decade of the 1940's to the decade of the 1950's. The proportion of the employed labor force increased from less than one-half of one percent to 1.18 percent between the two decades.

The services industry group experienced the largest increase in both absolute and relative employment in the 1950 decade. The employed labor force in services increased 9,253 from 1950 to 1960. The proportionate share of services in employed labor force increased 3.23 percent from 1950 to 1960. In 1960 services comprised 16.86 percent of the employed labor force in Montana.

Growth in employment in the government sector was the second largest of all industry groups from 1950 to 1960, the services sector being the largest employment growth sector. In terms of the number of workers involved, the largest increases have occurred in elementary and secondary school systems. Employment of persons in public education institutions increased from 8,135 in 1950 to 12,466 in 1960, or by 4,313 persons during the decade. The total increase in employment in the government sector was 6,802 from 1950 to 1960. Thus, the increase in employment of persons in public education institutions made up over 60 percent of the increase in employment in the government sector. The remaining nearly 40 percent increase in government sector employment arose through the increase in employment of 2,489 in state and local public administration. Employment in the government sector in 1960 made up 10.83 percent of total employment in the State of Montana.

Of the four industries producing tangible goods (agriculture, mining, construction and manufacturing), two experienced absolute declines in employment and three experienced proportionate declines in employment. Construction employment was essentially stable from 1950 to 1960. Manufacturing employment increased in both absolute and relative terms from 1950 to 1960. Transportation and utilities experienced both absolute and relative declines in employment during the last decade. The services and government sectors were by far the largest employment growth sectors in the industries producing intangible goods.

Occupational Composition of Employment - 1940 to 1960

Changes in labor force employment in various industry groups are a reflection of the changing contribution of manpower to the industry measured in numerical terms, and the changes in occupational employment patterns of industry groups. For example, adoption of technology in an industry may reduce or increase the number of laborers and increase or reduce the number of skilled or professional people employed in the industry. Hence, the occupational requirements may change from fewer laborers to more skilled or professional workers or vice versa. The changes in occupational

composition of industries adopting technology depend upon the nature of the industry and its production. The industry may, on balance, employ more or less people depending on the net change in manpower requirements due to new technology. Agriculture is a clear example wherein substantial reductions in manpower have occurred. However, the proportion of farm employment made up of farm laborers has increased whereas the proportion of farmers and farm managers has declined over the last two decades.

Table 9 was prepared to show the occupational composition of the labor force 1940, 1950 and 1960 and the change in the occupational composition from 1940 to 1960. The decreases in the nonfarm and farm laborers and farm managers, both in absolute and relative terms, indicate a basic structural change in the occupational composition of Montana's labor force. Of the occupational groups showing a decline, the farmers and farm managers group experienced by far the largest decline in absolute and relative terms in both decades. The decline in importance of employment in agriculture of farm managers and farm laborers relative to total employment is illustrated by the fact that the percent of the labor force employed in agriculture dropped from 28.91 percent in 1940 to 16.29 percent in 1960. In 1960 the percent of the employed labor force employed in agriculture for the United States as a whole was 6.3 percent. We might expect that considerable adjustment is yet to come in agriculture if Montana can be expected to approach the United States average percent of the employed labor force in agriculture. However, it is possible that Montana could achieve the United States average without substantial reductions in agricultural employment simply through increased employment in other occupational categories that would reduce the relative importance of the agricultural labor force.

The increase in the upper three and the household and services occupational groups in Table 9 is a part of the basic structural change in occupational composition of Montana's labor force. This basic structural change is a national phenomena. For a comparison of Montana with the United States see Figure 3. These five occupational groups are the sources of employed labor force growth in Montana over the past 20 years. In 1960 four of these occupational groups comprised 61.97 percent of the employed labor force in Montana, whereas in 1940 they made up only 47.00 percent. The professional and managerial occupational group in 1960 made up a little over 20 percent of the employed labor force and the clerical and sales group comprised a little under 20 percent of the employed labor force.

The number of nonfarm laborers decreased 2,540 from 1950 to 1960. The major declines occurred in manufacturing, construction and transportation industry groups. Requirements for laborers have decreased because of substitution of machinery for unskilled labor.

Shifts in occupational patterns of employment are a reflection of changing occupational requirements of the economy, changes in productivity of the labor force and increasing income levels of the labor force. The shifts in employment shown in Table 9 have been toward occupations requiring higher levels of education and training.

Increasing educational requirements of the labor force in Montana is suggested by comparing increases over time in educational attainment of workers invarious occupational categories in Table 10 with changes in the number of employed persons in each occupational group in Table 9.

From 1948 to 1962 the educational attainment of the U. S. labor force has increased in every occupational group. In addition to the increases in educational attainment of all occupational groups, some of the largest increases in years of schooling required occurred in the fastest growing occupational groups in Montana, especially professional and managerial and clerical and sales occupations (see Table 9). Increasing demand for education is obvious because of increased educational requirements of the labor market and the requirements for larger numbers of people with higher levels of educational attainment.

The implication of increasing labor market requirements for highly educated and trained people is that the opportunities for employment increase as their education and training increase. On the other hand, employment opportunities of those without high levels of education and training appear to be narrowing over time. In addition to fewer or a smaller range of employment opportunities for those without high levels of education and training, the level and growth in incomes appear to be limited (see Table 1 and Table 11).

It is clear that there is a positive relationship between occupation, educational attainment, and income. It is also clear that if per capita incomes in Montana are to grow significantly, increases in employment must occur high on the occupational ladder. Although the number of people employed in the occupations with high incomes was large from 1950 to 1960 relative to total employment growth in Montana, the shift in occupational composition (from the low income occupations to the high income occupations) was not enough to provide growth in per capita incomes similar to

Table 10. Educational Attainment of the Employed Civilian Labor Force of the United States, 1948-1962.[a]

Occupational Group	Median Years of Schooling 1948	1952	1957	1959	1962
Professional and Managerial	12.6	12.8	12.9	13.2	13.5
Clerical and Sales	12.4	12.4	12.4	12.5	12.5
Craftsmen, foremen and kindred	9.7	10.1	10.5	11.0	11.2
Operatives and kindred	9.1	9.1	9.5	9.9	10.1
Household	--	8.1	8.3	8.4	8.7
Service	--	9.2	9.6	10.3	10.8
Nonfarm Laborers	8.0	8.3	8.5	8.6	8.9
Farmers and Farm Managers	8.2	8.5	8.6	8.7	8.8
Farm Laborers	7.6	7.5	8.2	8.3	8.5
All Occupations	10.6	10.9	11.7	12.0	12.1

[a] Source: United States Department of Labor, "Manpower Report of the President and A Report on Manpower Requirements, Resources, Utilization and Training," 1963, p. 158.

growth of incomes in the U. S. as a whole. For example, growth of employment in the professional and managerial group in Montana was 23.40 percent from 1950 to 1960 whereas for the United States as a whole the growth was 31.55 percent from 1950 to 1960. Likewise, the decline in agricultural employment in Montana was 20.71 percent from 1950 to 1960, but for the United States as a whole it was 38.01 percent from 1950 to 1960. Thus, in a relative sense, Montana's occupational composition is changing less rapidly than that of the United States as a whole which is partially attributable to the position of Montana relative to the United States in 1950.

Table 11. Average Earnings of the Experienced Civilian Male Labor Force for the North and West Regions of the United States by Occupation in 1959.

OCCUPATIONAL GROUP	MEAN EARNINGS
Professional and Managerial	8,475
Clerical and Sales	5,904
Craftsmen, foremen and kindred	5,404
Operatives and kindred	4,614
Service and household	3,798
Nonfarm laborers	3,735
Farmers and farm managers	3,555
Farm laborers	2,289
Average Male Labor Force	5,556

[a] Source: U. S. Bureau of the Census. U. S. Census of Population: 1960, Subject Reports. Occupation by Earnings and Education, Final Report PC (2)-7B, Table 2, pp. 198-219.

LABOR FORCE PROJECTIONS

Labor force projections along with the knowledge of the characteristics of Montana's labor force developed in the preceding analysis will provide us with a basis for projecting personal income tax revenue.

The Upper Midwest Economic Study (U.M.E.S.) projected the labor force in Montana by first projecting employment and by assuming that the labor force in the state would increase at the same rate as employment or in other words 1975 unemployment rates in Montana would remain at the 1960 level. The projections of

Montana's labor force for 1975 by the U.M.E.S. is 280,930. This implies a labor force in 1970 of 269,973.[20]

Assumption and Methodology Used in Making Labor Force Projections

The methodology used in The Montana Tax Study is different from that used in the U.M.E.S. in that it relies solely on independent projections of population and labor force participation rates. Participation rates are percentages of the people of a county or state classified as labor force by the U. S. Department of Commerce.

The assumptions underlying projections of the labor force are those made in projecting county populations. Recall that the same migration rates, birth rates and death rates were assumed to exist in the 1960 to 1970 decade as existed in the 1950 to 1960 decade. Differences in the 1960 labor force and the projected labor force reflect only projected changes in the population which in turn are based on specific assumptions.

A critical assumption for labor force projections is that regarding migration rates. Since migration is responsive to economic conditions in counties and the state, the assumption of similar conditions in the two decades must be recognized in the interpretation of labor force projections.

Another assumption implicit in using population projections for labor force projections, is that farm to nonfarm migrants will be absorbed into the nonfarm sector of Montana's economy at the same rate during the 1960 to 1970 decade as they were from 1950 to 1960. For example, from 1950 to 1960 Montana's economy retained about 47 percent of the farm to nonfarm migrants. This retention rate used in these labor force projections is assumed to be constant.

Finally, labor force projections are made assuming that age

---

20. See James M. Henderson and Anne Krueger, "National Change and Economic Growth in the Upper Midwest," University of Minnesota Press, 1965, Table 5-1, p. 53. It should be noted that the Montana Employment Service estimated the July 1965 civilian work force at 275,000. The unemployment rate in the same month was 3.1 percent. In 1960 the unemployment rate was 6.6 percent.

specific participation rates in 1960 would be the same in 1970.[21] If participation rates fall from 1960 to 1970 the projections will be higher than the actual labor force and smaller if they rise, other things equal (see Table 5).

The computation procedure is as follows: (1) compute participation rates for each of six age classes, (2) allocate the projected 1970 population to the six age classes and (3) multiply the participation rate in each age class by the respective projected age class populations.

The civilian labor force was about 224,000, 230,000 and 248,000 in 1940, 1950 and 1960, respectively. The growth in the civilian labor force from 1940 to 1960 in Montana was about 24,000, or about 11 percent over the 20 year period. The slow rate of growth in the civilian labor force from 1940 to 1960 is related to the slow rate of growth in working age population over the same period.[22] The increase in total labor force projected from 1960 to 1970 is larger in both absolute and relative terms than the increase from 1940 to 1960. Projected growth in the labor force by age class is shown in Table 12.

The labor force 14-17 years old is projected to increase 5,210 or by 40.12 percent from 1960 to 1970. It is significant that the proportion of the labor force 14-17 years old increased from 1.77 percent in 1940 (Table 6) to 5.10 percent in 1960 and is projected to increase still further to 6.16 percent in 1970.

---

21. Age specific labor force participation rates are defined as the ratio of the labor force in an age class to the total population in that age class. The three factors that are probably most relevant to decreases in participation rates are: (1) rural to urban shift in population--reduces the rates in all age classes, (2) lengthening school attendance--reduces the rates in younger age groups, and (3) earlier retirement--reduces the rates in the older age bracket 65 years old and older. However, the continued movement of women at all ages into the labor force probably offset to a large degree the factors tending to reduce the rates.

22. The causal factor, however is not the slow rate of growth of working age population but the level of economic activity in Montana which determines the economic opportunity of people in the state.

Table 12. The Montana Labor Force in 1960, Projected Montana Labor Force in 1970, and the Percent Distributions of the Labor Force in Six Age Classes, Projected Change in the Labor Force, Percent Differences, and the Percent Change 1960 to 1970.

Age Class	Total Labor Force[a] 1960	Percent[b] 1960	Projected Total Labor Force 1970	Percent 1970	Change 1960-70	Percent Difference	Percent Change
14-17	12985	5.10	18195	6.16	+ 5210	+ 1.06	+ 40.12
18-24	33826	13.30	53944	18.26	+20118	+ 4.96	+ 59.47
25-34	50424	19.82	57957	19.61	+ 7533	- .21	+ 14.93
35-44	58357	22.94	54140	18.32	- 4217	- 4.62	- 7.23
45-64	84091	33.05	95806	32.42	+11715	- .63	+ 13.93
65 +	14718	5.79	15433	5.22	+ 715	- .57	+ 4.85
Total	254401	100.00	295475	99.99	+41074	- .01	+ 18.14

[a] Source: U. S. Bureau of the Census, U. S. Census of Population: 1960. General Social and Economic Characteristics, Montana Final Report PC(1)-28c, Table 83, pp. 136-140. The labor force data in this Table refers to the total labor force rather than the civialian labor Appendix Table 3.

[b] See Table 6.

The proportion of the labor force 14-17 years old is projected to be larger than the proportion 65 years old and older. This has not been the case during the two preceding decades. Per capita incomes in age class 14-17 years old are lower than Montana per capita incomes (about 2100 Dollars) and consequently increases in the employed labor force in this age class do not contribute to growth in Montana per capita incomes.

Labor force growth is projected to be largest in age class 18-24 years old from 1960 to 1970. A projected growth of 20,118 or by 59.47 percent from 1960 to 1970 make up about half of the projected growth of the total labor force in the state. The proportion of the labor force in age class 18-24 years old is projected to increase to 18.26 percent. This is a 4.96 percent increase in the proportion of the labor force in age class 18-24 years old. Since incomes in this age class are close to Montana per capita incomes, we cannot anticipate that the expected substantial increase in

the employed labor force in the age class 18-24 years old will result in growth of per capita incomes in Montana.

Although the labor force aged 25-34 years old is expected to increase 7,533, or 14.93 percent from 1960 to 1970, the proportion of the labor force in this age class is expected to decline slightly as it did in the two decades previous to the 1960's. Increases in employment in this age class are expected to increase per capita incomes since even those with 0-7 years of school completed on the average earned close to the Montana per capita incomes in 1960. However, since the relative importance of the expected labor force in 1970 aged 25-34 is projected to decline from 1960 to 1970 this age class probably will not be a major source of growth in per capita income in Montana.

The decline in labor force indicated by the projection for 1970 in age class 35-44 years old is serious from the point of view of growth in per capita incomes in Montana over the next decade. This is an age class which is made up of highly trained, skilled, and experienced labor force members. It should be noted that in addition to the absolute reduction in labor force of 4,217 projected in 1970, age class 35-44 years old is projected to become a significantly smaller proportion of the labor force of the state. In 1940, 1950 and 1960 age class 35-44 years old made up 18.48 percent, 22.38 percent, and 22.94 percent, respectively, of the labor force. The projected percentage (18.32) is smaller that that in 1940. It is interesting to note that the labor force in age class 25-34 years old in 1960 was 50,424 while the labor force age cohort (35-44 years old in 1970) is projected to be greater by 4,716. This indicated that the labor force in age class 35-44 years old will have to be augmented by in-migration during the decade. Because of the small labor force growth in age class 35-44 years old nationwide and the intense competition in the labor market for highly trained, skilled and experienced people, it is likely that little in-migration will occur in the age class 35-44 years old. Hence, it is likely that the labor force in that age class in Montana will be even smaller than projected.

The second largest projected increase in the labor force is in age class 45-64 years old. The projected increase of 13,818 amounted to a 16.43 percent increase from 1960 to 1970. Even with the projected 16.43 percent increase in the labor force aged 45-64 years old it is expected to become a smaller proportion of the labor force in 1970 than it was in 1960. However, the projected labor force in this age class will still comprise over 30 percent of the labor force if the projections are realized. The

projected increase in labor force in age class 45-64 is substantial, but in a relative sense was more than offset by the projected growth in age classes below 25 years old. Here again any increases in per capita incomes arising out of increased employment in age class 45-64 would be offset in large part by the increases in employment in age classes with low incomes if projections are realized.

In general it is significant that the younger age classes are expected to become a larger part of the labor force in Montana. This means than in terms of income-producing ability this age class composition change is not conducive to rapid growth of per capita incomes since incomes of the young are low relative to per capita income in Montana.

Significant changes in migration patterns from the decade of the 1950s may, and are likely to, occur, probably reducing the number of labor force members expected in 1970 in age classes 14-17 and 18-24 years old. If that is the case, then Montana labor force growth will not achieve 41,074 or 18.14 percent for the period from 1960 to 1970.

EDUCATION

Public expenditures on education comprise the bulk of total expenditures at both the state and local levels of government in Montana as well as in the states comprising the rest of the Nation. Total operating expenditures on education in Montana in 1950 were 22,191,602 Dollars, while in 1960 they were 56,115,983 Dollars.[23] Thus, over the past decade the increase in expenditures was 33,924,381 Dollars. These expenditures have been primarily responsible for increases in taxes at the state and county levels during the past decade. It is clear, then, why many groups and individuals are concerned with public expenditures on education. General public concern is from taxpayers. Educators and public officials are constantly concerned with matters of allocating funds within budgets for educational purposes at both state and

---

23. Operating expenditures exclude investments in physical facilities such as school houses, dormitories and classrooms and other capital outlays that cannot be counted as annual expenditures because they yield services for many years.

local levels. Legislators are concerned with allocation of funds between education and other uses. The major problem appears to be a lack of criteria for determining priorities for limited funds.

Investments in Education

There is considerable reluctance, mainly on the part of educators, public officials, and to some extent even economists, to be actively concerned with the economics of education. There has been little effort by administrators and educators to study education as an activity wherein economic criteria, such as costs and returns, may be applied as a decision framework. One of the main reasons that the costs-returns decision framework is foreign to the minds of most educators, public officials and those concerned with public education is that public education is in large part not subject to the forces of the market; hence, tradition and public consensus have been the guiding forces in allocating public expenditures on education.[24] Tradition and public consensus in the recent past have viewed education as mainly cultural in nature and not economic in its purpose. In this view, education serves to develop individuals to become responsible citizens by imparting essential values and attitudes.

Regardless of how education was or is viewed now, almost a natural consequence of it is to improve the economic capabilities of individuals as well (see Table 1).

Although the thinking about education as an investment in human beings is far ahead of the empirical research, there are research results that apply more or less directly to the problems of allocating scarce public funds and indicate the scope and importance of education in our economy.[25] The purpose of the subsequent discussion is to summarize some of the available research results and their meaning for decisions regarding expenditures of public funds on education.

In any analysis of investments there are two major categories of factors discussed. These categories are called costs and returns or benefits of investments. Investments in education involve both public and private costs and yield both public and private returns. This discussion lists some of the public and private returns and costs or education.

---

24. Note the emphasis on public education. There are many private and quasi-private educational institutions at all levels that are subject to market forces, including competition from the institutions supported by public funds.

25. Theodore W. Schultz, "Capital Formation By Education," Journal of Political Economy, Dec. 1960, pp. 571-583.

Direct financial returns to individuals may be divided into two parts: (1) the additional earnings resulting from completion of a given level of education and (2) the value of an additional increment of education beyond a given level.[26]

Table 1 shows the incomes of persons by age and education classes in the western United States. It is seen that with higher levels of education incomes increase more rapidly with age. Also, within a particular age class, income levels increase with higher levels of education. Another private return of education is the increased ability of workers with higher levels of education to adjust to the job opportunities. In other words, education may be viewed as a type of private hedge against technological displacement of skills.

In recent years many observers have attributed the long-run persistent unemployment in the United States to the inability of workers to adapt to new technology. Analysis of the relationships of education and job adaptability suggest that persons having more education are likely to be in a position to adapt to new jobs created by technological change.[27] There are also public implications of labor force adaptability, since unemployment imposes social costs.

The private non-market returns to literacy are many and large. People perform many tasks each day that they could not perform if they were not literate. Weisbrod estimates that private non-market returns to literacy to individuals in preparing their own income tax returns at $250 million. This is a task that a large number of taxpayers perform annually themselves that would not be possible if they were illiterate. This market saving to individuals was about 3.2 percent of the annual elementary school costs in the United States in 1956.

There may be substantial economies of scale (with respect to the number of students) which would explain a large share of the public interest in education. For example, if the annual resource cost of education per student declines significantly as the number of students increases, there would be an inducement for parents to participate in mass education. This is because there is a smaller required contribution of each parent for educating their children.

The nonpecuniary returns to parents of material and cultural suc-

---

26. Burton A. Weisbrod, "Education and Investment in Human Capital," Journal of Political Economy (supplement) Vol. 70, October, 1962, p. 109.

27. Jacob Mincer, "On the Job Training: Costs, Returns and Some Implications," Journal of Political Economy (supplement) Vol. 70, October, 1962.

cesses of their children are additional private returns that may be attributable in large part to education.

The public benefits of education are of three general types.[28] First, there are residence-related beneficiaries who benefit by virtue of some relationship between their place of residence and that of the student. Second, there are employment-related beneficiaries who benefit by virtue of some employment relationship with a highly educated person. Third, society in general receives benefits of education. Current families of students in the first category are the main recipients of returns from education. In the case of the current families of students, schools have as a by-product of education child care services. Some mothers who would otherwise be in the home supervising children have time available to work and do other things. Weisbrod estimated that in the United States in 1956 about one million mothers with children 6 to 11 years old were in the labor force. These mothers would not have worked if they had had to stay home to care for their children. Their earnings were about 25 percent of the total resource cost of public and private elementary schools. Note that this is a return to the by-product (child care services) of elementary education. On the other hand, because of differences in the work day (8 to 5) and school day (9 to 3), there is a possibility that significant social costs are incurred due to unsupervised children having opportunities for activities with antisocial consequences.

It has been suggested, and seems very plausible, that education is a cumulative process.[29] For example, it is possible that when a well-educated student becomes a parent their children will benefit significantly in terms of initial start in the education process and progression through the formal requirements. The role played (investments made) by educated parents in motivating their children to obtain an education (not drop out) and to perform well (requiring less discipline and attention) in school is probably of important significance in reducing the monetary costs of educating children. Also, the returns per unit of education to the students with highly educated parents are probably larger.

In addition to imparting "acceptable" social values and behavior to children, education provides an alternative to unsupervised activities which may have significant effects on neighbors within the community. Closely related is the fact that if lack of education leads to unemployment and crime, job security payments and law enforcement costs

---

28. Weisbrod, Op. Cit., p. 116.

29. Theodore W. Schultz, "Education and Economic Growth," Social Forces Influencing American Education, National Society for the Study of Education, 1961.

will tend to be higher than they would be if taxpayers incurred costs for education to avoid such unemployment and law enforcement costs. In this respect people in areas experiencing in-migration have a stake in education in other areas as well.

There are employment-related benefits of education to fellow workers and to employers. Probably the most significant benefit to a worker of having highly educated and trained fellow workers is inter-employee training. Additionally, the direct output benefits of skill and adaptability of a highly trained person may be diffused among his fellow workers.

Much of the educational process improves the quality of labor (in the inclusive sense) and therefore its productivity. Insofar as the market mechanism is imperfect, in the sense that workers are not paid their marginal productivities, employers receive benefits. Becket hypothesizes that workers with specific training (vocational or on-the-job) are paid less than their marginal revenue productivity because their wage rates are determined outside the firms in which they are employed or in the industry as a whole.[30] In this case employers could reap benefits from specific education.

Literacy is of obvious value to society as a whole since the existence of the market economy and the democratic process depend upon the assimilation and use of information.

The importance of education in our economic system is demonstrated by the labor force analysis and the investment considerations above. However, there remains a need: (1) to observe and analyze the changes in educational attainments of Montana's population over the past two decades, and (2) to discuss some of the factors relevant to expenditures on educational services in the future.

Educational Attainments

The educational composition of Montana's population 25 years old and over showed uniform improvement from 1950 to 1960. Improvement in this case means that the number and proportion of people declined in the lower education classes and increased in the higher education classes (see Table 13). In 1950 18.89 percent of Montana's adult population had less than eight years of school completed, whereas in 1960 only 13.34 percent had not completed eight years of education. Additionally, from 1950 to 1960, the percent of the adult population that completed high school increased from 39.72 percent to 47.82 percent or by 7.99

---

30. Gary S. Becker, "Investment in Human Capital: A Theoretical Analysis," Journal of Political Economy (supplement) Vol. 70, October 1962.

Table 13. The Numbers of People 25 Years Old and Older in Montana in Each Education Class and the Percentage of the Population in Each Education Class, 1950 and 1960.[a]

Years of School Completed	Number 1950	Percent 1950	Number 1960	Percent 1960	Difference Number	Difference Percent
None	4,513	1.33	3,301	0.93	- 1,212	- 0.40
1-7	59,453	17.56	44,191	12.41	-15,262	- 5.15
8	87,415	25.82	76,823	21.57	-10,592	- 4.25
9-11	52,726	15.57	61,465	17.26	+ 8,739	+ 1.69
12	76,485	22.59	99,998	28.08	+23,513	+ 5.49
13-15	36,827	10.88	43,458	12.20	+ 6,631	+ 1.32
16 +	21,158	6.25	26,851	7.54	+ 5,693	+ 1.29
Totals	338,577	100.00	356,087	99.99	+17,590	- 0.01

[a] The 1950 data were taken from U. S. Bureau of Census. U. S. Census of Population: 1950, Characteristics of the Population, Vol. 2, Part 26. Tables 64 and 65, pp. 100 and 102. The 1960 data came from U. S. Bureau of Census. U. S. Census of Population: 1960, Detailed Characteristics. Montana. Final Report PC(1)-28D, Tables 102 and 103, pp. 191 and 193, respectively. For county data on the educational status of the adult population see Appendix Table 4.

percent. The percent of the adult population with 12 years of school completed increased 5.49 percent during the 1950-1960 decade. The percent of the adult population with 16 or more years of school completed in Montana increased from 6.25 percent in 1950 to 7.54 percent in 1960. Less than one-half of one percent of Montana's population were adults with no years of school completed in 1960, and about one percent of the population in 1950 were adults with no years of school completed.

Birth, Death and Migration Effects on the Education Class Distribution of Montana's Population

The changes from 1950 to 1960 in the numbers and proportions of the population in education classes are largely due to increases in the educational attainment (inter-education class migration) of people during the decade and two components of population change, namely deaths and geographic (net interstate) migration.

Table 14 shows the percentage of the population 15 years old and

Table 14. The percentage that Each Education Class is of the Montana Population 15 years old and over for 1950 and 1960, the Changes in the Percentages from 1950 to 1960 and the Three Components of Change from 1950 to 1960.[a]

Years of School Completed	Education Class Percentage 1950	Education Class Percentage 1960	Differences 1950-1960	Death Effects 1950-1960	Inter-Education Class Migration Effects 1950-1960	Geographic Migration Effects 1950-1960
0	1.22	0.92	- 0.30	- 0.21	+ 0.18	- 0.27
1 & 2	1.21	0.60	- 0.61	- 0.16	- 0.18	- 0.27
3 & 4	3.39	2.58	- 0.81	- 0.66	- 0.19	- 0.04
5 & 6	5.53	4.42	- 1.11	- 0.73	- 0.25	- 0.13
7	5.48	4.81	- 0.67	- 0.29	- 0.05	- 0.33
8	23.41	21.57	- 1.84	- 1.19	- 0.75	+ 0.10
9	6.62	5.64	- 0.98	+ 0.31	- 1.28	- 0.01
10	7.62	6.60	- 1.02	+ 0.36	- 0.97	- 0.41
11	5.44	5.03	- 0.41	+ 0.37	- 0.60	- 0.18
12	23.81	28.08	+ 4.27	+ 1.55	+ 1.74	+ 0.98
13	4.12	4.53	+ 0.41	+ 0.22	+ 0.28	- 0.09
14	4.58	5.14	+ 0.56	+ 0.18	+ 0.41	- 0.03
15	2.21	2.53	+ 0.32	+ 0.12	+ 0.16	+ 0.04
16 +	5.36	7.54	+ 2.18	+ 0.13	+ 1.49	+ 0.56
Totals	100.00	99.99	- 0.01	0.00	- 0.01	0.00

[a] Ibid., U. S. Censuses of Population: 1950 and 1960.

Note: This Table is presented to analyze the importance of three factors that alter the percent distribution of the population in each education class. Therefore, it is necessary to include those people 15-24 years old in 1950 who were 25-34 years old in 1960. Hence, the percent distributions in this Table are not the same as those in Table 13, but they serve to show the effects of the three components of change over the decade.

over in various education classes in 1950 and 1960 and the total changes in the percent distributions from 1950 to 1960. The proportion of the population with 12 and more years of school completed increased 7.74 percent from 1950 to 1960. The largest contribution to the 7.74 percent

increase was the 4.08 percent increase arising from inter-education class migration. Thus, changes (increases) in the educational status of the population are the most important factor contributing to increases in the educational attainment of Montana's population. The death effects from 1950 to 1960 contributed 2.20 percent to the over all increase of 7.74 percent in the proportion of the population with 12 and more years of school completed. This is what might be expected because of the lower educational attainments of older people and their higher death rates.

The effects of migration were on balance to increase the proportion of the population with 12 years and more of school by 1.46 percent. Out-migration did not show a pattern of selectivity with respect to education classes. That is, there is no uniform out-migration in elementary, secondary or college education classes. It is interesting that in-migration occurred in the 8, 12 and 16 and more years of school completed classes. Geographic migration effects are not as significant as deaths and inter-education class migration in altering the distribution of the population among education classes.

Maintenance of and increase in the level of educational attainment of the population will become more difficult to achieve in the future. There are coming to be fewer people with eight and less years of school completed; hence, death effects will become less significant. This will become important when the proportions of the adult population with eight and less years of school completed become small. However, depending on the intensity of adult education and its measurement, the declining influence of death effects in increasing educational attainment of the population may be offset.

Summary

Considerable concern has been expressed about the possibility that out-migration from Montana is selecting people from the productive age classes to the extent that the proportion of the population in productive age classes is becoming smaller, and therefore per capita burdens of public services in productive age classes are becoming larger for those remaining in the state. The initial concern is predicated on the assumption that migration is responsive to economic activity and that some economic policy should be instituted to stem out-migration of people in productive age classes. The assumption that migration is responsive to economic activity is correct. Also the occurrence of out-migration in productive age classes has been concomitant with a decline in the proportion of the population in productive age classes in Montana. However, this study of the three components of population change provides no evidence that out-migration from 1950 to 1960 reduced the proportion of the population in productive age classes. Births are by far the most important component of population change reducing the proportion of the population in the productive age classes. The difference in the proportion of the population in productive age classes in Montana and for the United States as a whole is attributable largely to birth effects. Hence, the influence of migration through altered age distributions on revenue and expenditure problems state-wide was not important at least for the last decade.

Net geographic out-migration from Montana of people and their personal property (automobiles) from 1950 to 1960 amounted to a loss in state-wide assessed valuation estimated at over five million dollars. On the other hand Yellowstone County gained an estimated 25 Million Dollars in assessed value through net geographic in-migration from 1950 to 1960. Flathead County lost about 650,000 Dollars in assessed valuation due to net geographic out-migration from 1950 to 1960. In most counties gains and losses due to in-migration and out-migration have little absolute or relative importance in the tax base.

Reflections of changes in the amounts and values of real property are closely related to the appraisal and assessment process. Discovery of new real property causes virtually no difficulty and is reflected more or less concurrently with its appearance in a county. However, changes in the values of real property are reflected only when reappraisals are made and new values entered on the assessment rolls. Currently the staff available in <u>most</u> counties is inadequate to provide effort necessary to establish values consistent with economic conditions in any less than five to ten years. Thus, changes in the quantity of real property due to population shifts in a county should be reflected in the real property tax base as they occur. However, change in the values of real property due to population shifts, or any other factors altering property values, are not re-

flected in the tax base any sooner than five to ten years.

Projections of Montana's population for 1970 show an expected increase in every age class. In the pre-school and elementary school age classes the projected increases from 1960 to 1970 are less than the observed increases from 1950 to 1960. Projected increases in the elementary school age class (5-13 years old) is 21,387 less than the increase from 1950 to 1960. This means that although there will be 16,592 more elementary school age children in 1970 than in 1960 this is less than half the increased requirements for support and facilities than during the previous decade. The projected increase in the high school age class (14-17 years old) is 4,827 children more from 1960 to 1970 than the increase from 1950 to 1960. If the projections are realized support and facilities for about 4,827 more high school students will have to be provided for during the current decade. The college age class (18-21 years old) is projected to increase over five times the increase in that age class from 1950 to 1960. Assuming that 30 percent of the projected increase in population aged 18-21 years old will enroll in the Montana University System, provision for educating about 5,000 students would need to be provided. If we assume that 40 percent of the projected increase will enroll in the System, about 7,000 more students would enroll in 1970. The total enrollment, under the alternative assumptions of 30 and 40 percent would be 16,099 and 21,466 students, respectively, for the Montana University System.

Several factors are evident from this analysis of the labor force. Population and labor force increases over the past 30 years have been due to increases in female population and increases in female participation in the labor force of the state. This has occurred primarily because of the transition in Montana's labor market from requirements for heavy labor to requirements for labor in which women find more opportunities. The primary fact of significance for The Montana Tax Study is that increases in the labor force in Montana over the past 30 years have not produced the additional wealth that was and is necessary for a system of public services based primarily on the number of people to be served. In other words, additions to the labor force, primarily women, with low incomes and already part of a family or household unit with a house and automobile do not result in an expansion of the tax base commensurate with growth of expenditures.

There have been substantial changes in the proportion of the population participating in the labor force in different age and sex categories. The large increase in participation of women was noted above. The participation rates of women in age classes are approaching and in some case equal to those of the United States as a whole. Additions to Montana's labor force in the future are expected to approach a more even balance between males and females as

opposed to the dominance of female additions for the past 30 years. The over all participation rate of Montana's population is not expected to change much from 1960 to 1970 because the over all rate increased only slightly from 1950 to 1960 and there are many factors at work tending to reduce it. In making labor force projections we relied on the stability of the over all participation rate in Montana.

The age composition of Montana's labor force has been remarkably stable for the past two decades. The proportion of the labor force in two age classes namely 14-17 and 35-44 years old have shown slight increases from 1940 to 1960. The proportion of the labor force and the absolute size of the labor force in age class 25-34 years old showed a slight decline over the past two decades. However, changes in the age composition have not been large enough to have substantially altered growth in per capita personal income or state revenue from the income tax over the past two decades.

Unemployment in Montana has been above five percent (as well as can be determined) from 1940 to 1963. In 1963 and 1964 unemployment fell below five percent of the labor force. Neither direct nor indirect connection between unemployment and state revenue collections could be found. A tentative explanation of the level of unemployment centered around farm to nonfarm migration and the rate of capital formation is suggested which appears consistent with some of the things that are occurring in Montana but no empirical evidence was offered to support the hypothesis.

Changes in the industry composition of employment have been large in Montana in the past two decades. In general, employment in tangible goods-producing industries has declined whereas employment in intangible goods-producing industries (services) has increased. The services and government sector industries have experienced the largest increases in employment. Increases in employment in the wholesale and retail trade sectors do not contribute substantially to growth in per capita personal incomes because of the "low" incomes in those sectors. The services sector in Montana is dominated by professional and related services wherein incomes are generally high, and therefore the contribution to growth of this industry due to increased employment in absolute and relative terms is significant from 1950 to 1960. The services industry in Montana made up over 16 percent of the employment in 1960, about 4 percent greater than in 1940.

There has been a basic structural change in the occupational composition of Montana's employed labor force during the past two decades that has significant implications for education, training and incomes in Montana. There has been a significant shift away from occupations wherein people have low levels of education and training and low incomes toward occupations with higher education

and training requirements and higher incomes. It is clear that those who do not achieve high levels of educational attainment are severely limited both in terms of flexibility within the occupational ladder and also in terms of the level and growth in their incomes over time. Additionally, the training and skills required for the declining occupational categories are more or less unrelated to those required for the growing occupational categories in Montana.

There has been a uniform improvement in the educational attainment of the adult (25 years old and over) population in Montana during the last decade. The proportion of the adult population completing high school increased 7.99 percent from 1950 to 1960. The proportion of the adult population with eight and less years of school completed declined 10.07 percent from 1950 to 1960.

Not all of the improvement in educational attainment during the last decade can be attributable to increased expenditures on education. Since such a large share of the older people had low levels of education and the relative number of deaths are greater for older people, the effects of deaths on the education distribution were to reduce the proportion of people with eight and less years of education and increase the proportion with greater than eight years of school completed. Net geographic migration contributed in a minor way to reducing the proportion of people with eight and less years of education and increasing the proportion with greater than eight years of school completed. We may reasonably expect that the declining proportion of people with eight and less years of school completed will reduce the effects of deaths in improving the educational attainment of Montana's population. Thus, it may become more expensive to achieve increases in the average level of education of the population in the future.

Appendix Table 1. Age Distributions For 1950 and 1960, Projected Populations in Age Classes of Montana County and State Populations to 1970, and Differences in Populations 1950 to 1960 and 1960 to 1970.

AGE CLASS	1950	1960	1970	Difference 1950-1960	Difference 1960-1970
BEAVERHEAD					
Under 5	650	778	936	128	158
5-13	851	1096	1328	245	232
14-17	376	473	602	97	129
18-21	368	441	567	73	126
22-64	3764	3577	3660	- 187	83
65 +	662	829	845	167	16
Totals	6671	7194	7938	523	744
BIG HORN					
Under 5	1362	1398	1464	36	66
5-13	1919	2179	2277	260	98
14-17	678	751	803	73	52
18-21	588	581	657	- 7	76
22-64	4637	4359	4252	- 278	- 107
65 +	640	739	761	99	22
Totals	9824	10007	10214	183	207
BLAINE					
Under 5	1133	1085	861	- 48	- 224
5-13	1612	1753	1621	141	- 132
14-17	583	566	586	- 17	20
18-21	479	396	431	- 83	35
22-64	3983	3431	3056	- 552	- 375
65 +	726	859	791	133	- 68
Totals	8516	8090	7346	- 426	- 744
BROADWATER					
Under 5	341	355	321	14	- 34
5-13	506	536	522	30	- 14
14-17	165	190	183	25	- 7
18-21	138	143	150	5	7
22-64	1507	1258	1145	- 249	- 113
65 +	265	322	303	57	- 19
Totals	2922	2804	2624	- 118	- 180
CARBON					
Under 5	1133	742	578	- 391	- 164
5-13	1634	1541	1031	- 93	- 510
14-17	643	554	432	- 89	- 122
18-21	527	364	329	- 163	- 35
22-64	5230	3867	2884	-1363	- 983
65 +	1073	1249	1146	176	- 103
Totals	10240	8317	6400	-1923	-1917

CARTER

AGE CLASS	1950	1960	1970	Difference 1950-1960	Difference 1960-1970
Under 5	366	285	237	- 81	- 48
5-13	460	489	363	29	- 126
14-17	166	166	152	--	- 14
18-21	156	126	132	- 30	6
22-64	1398	1172	1029	- 226	- 143
65 +	252	256	230	4	- 26
Totals	2798	2494	2143	- 304	- 351

CASCADE

Under 5	6342	10221	13832	3879	3611
5-13	7395	13534	19945	6139	6411
14-17	2836	4492	7583	1656	3091
18-21	3034	4261	7830	1227	3569
22-64	29209	35230	47495	6021	12265
65 +	4210	5680	6308	1470	628
Totals	53026	73418	102993	20392	29575

CHOUTEAU

Under 5	887	947	765	60	182
5-13	1037	1551	1391	514	- 160
14-17	395	450	584	55	134
18-21	362	302	453	- 60	151
22-64	3646	3322	3210	- 324	- 112
65 +	647	776	674	129	- 102
Totals	6974	7348	7077	374	- 271

CUSTER

Under 5	1501	1579	1410	78	- 169
5-13	1835	2433	2335	598	- 98
14-17	776	887	1073	111	186
18-21	745	712	942	- 33	230
22-64	6641	6059	5890	- 582	- 169
65 +	1163	1558	1599	395	41
Totals	12661	13228	13249	567	21

DANIELS

Under 5	457	436	302	- 21	- 134
5-13	711	738	582	27	- 156
14=17	271	254	238	- 17	- 16
18-21	235	184	190	- 51	6
22-64	2016	1713	1513	- 303	- 200
65 +	256	431	433	175	2
Totals	3946	3756	3258	- 190	- 498

DAWSON

Under 5	1195	1828	1839	633	11
5-13	1538	2593	3126	1055	533
14-17	541	823	1262	282	439
18-21	510	648	1093	138	445
22-64	4608	5509	7093	901	1584
65 +	699	913	1020	214	107
Totals	9091	12314	15433	3223	3119

DEER LODGE

AGE CLASS	1950	1960	1970	Difference 1950-1960	Difference 1960-1970
Under 5	1694	2122	1823	428	- 299
5-13	2217	3374	3325	1157	- 49
14-17	773	1148	1487	375	339
18-21	779	850	1288	71	438
22-64	9305	9271	9751	- 34	480
65 +	1785	1875	1966	90	91
Totals	16553	18640	19640	2087	1000

FALLON

Under 5	463	558	511	95	- 47
5-13	626	833	932	207	99
14-17	245	254	315	9	61
18-21	232	200	266	- 32	66
22-64	1806	1799	1866	- 7	67
65 +	288	354	326	66	- 28
Totals	3660	3998	4216	338	218

FERGUS

Under 5	1630	1655	1542	25	- 113
5-13	2121	2709	2633	588	- 76
14-17	753	875	1030	122	155
18-21	747	645	824	- 102	179
22-64	7270	6222	5753	-1048	- 469
65 +	1494	1912	1772	418	- 140
Totals	14015	14018	13554	3	- 464

FLATHEAD

Under 5	3591	3784	3538	193	- 246
5-13	5078	6503	6106	1425	- 397
14-17	1809	2140	2509	331	369
18-21	1581	1532	1966	- 49	434
22-64	16689	15246	14448	-1443	- 798
65 +	2747	3759	3971	1012	212
Totals	31795	32964	32538	1469	- 426

GALLATIN

Under 5	2491	3026	4301	535	1275
5-13	2868	4387	5140	1519	753
14-17	1310	2057	2844	747	787
18-21	1678	2139	3297	461	1158
22-64	11803	12125	14636	322	2511
65 +	1751	2311	2435	560	124
Totals	21901	26045	32653	4144	6608

GARFIELD

Under 5	270	221	202	- 49	- 19
5-13	341	414	313	73	- 101
14-17	135	134	131	- 1	- 3
18-21	127	101	121	- 26	20
22-64	1108	892	819	- 216	- 73
65 +	191	219	150	28	- 69
Totals	2172	1981	1736	- 191	- 245

GLACIER

AGE CLASS	1950	1960	1970	Difference 1950-1960	Difference 1960-1970
Under 5	1243	1780	1559	537	- 221
5-13	1841	2422	3159	581	737
14-17	627	810	1105	183	295
18-21	549	656	864	107	208
22-64	4844	5209	5777	365	568
65 +	541	687	821	146	134
Totals	9645	11564	13285	1919	1721

GOLDEN VALLEY

Under 5	157	118	169	- 39	51
5-13	203	248	162	45	- 86
14-17	88	77	73	- 11	- 4
18-21	72	48	56	- 24	8
22-64	668	537	464	- 131	- 73
65 +	149	175	126	26	- 49
Totals	1337	1203	1050	- 134	- 153

GRANITE

Under 5	276	341	290	65	- 51
5-13	432	554	581	122	27
14-17	142	192	222	50	30
18-21	106	136	172	30	36
22-64	1562	1466	1516	- 96	50
65 +	254	326	309	72	- 17
Totals	2772	3015	3090	243	75

HILL

Under 5	1825	2706	2770	881	64
5-13	2237	3682	4582	1445	900
14-17	969	1309	1995	340	686
18-21	935	1116	1837	181	721
22-64	7271	8313	10406	1042	2093
65 +	1049	1527	1583	478	56
Totals	14286	18653	23173	4367	4520

JEFFERSON

Under 5	360	372	472	12	100
5-13	680	841	832	161	- 9
14-17	244	327	359	83	32
18-21	212	256	310	44	54
22-64	2129	2082	2201	- 47	119
65 +	390	419	406	- 29	- 13
Totals	4015	4297	4580	282	283

JUDITH BASIN

Under 5	356	351	276	- 5	- 75
5-13	508	602	518	94	- 84
14-17	186	213	230	27	17
18-21	156	146	173	- 10	27
22-64	1652	1451	1311	- 201	- 140
65 +	341	323	289	- 18	- 34
Totals	3199	3086	2797	- 113	- 289

LAKE

AGE CLASS	1950	1960	1970	Difference 1950-1960	Difference 1960-1970
Under 5	1597	1437	1174	- 160	- 263
5-13	2491	2598	2343	107	- 255
14-17	979	909	906	- 70	- 3
18-21	737	622	648	- 115	26
22-64	6646	5790	5013	- 856	- 777
65 +	1385	1748	1818	363	70
Totals	13835	13104	11902	- 731	-1202

LEWIS & CLARK

Under 5	2565	3080	3787	515	707
5-13	3526	5117	5940	1591	823
14-17	1356	1887	2517	531	630
18-21	1270	1484	2145	214	661
22-64	13598	13555	14511	- 43	956
65 +	2225	2884	3109	659	225
Totals	24540	28007	32009	3467	4002

LIBERTY

Under 5	264	376	300	112	- 76
5-13	368	543	614	175	71
14-17	126	172	234	46	62
18-21	128	136	201	8	65
22-64	1147	1233	1420	86	187
65 +	148	164	157	16	- 7
Totals	2181	2624	2926	443	302

LINCOLN

Under 5	1044	1707	2034	663	327
5-13	1504	2624	3714	1120	1090
14-17	546	840	1411	294	571
18-21	471	672	1175	201	503
22-64	4415	5779	7932	1364	2153
65 +	713	915	1125	202	210
Totals	8693	12537	17391	3844	4854

McCONE

Under 5	451	440	375	- 11	- 65
5-13	499	710	640	211	- 70
14-17	206	216	259	10	43
18-21	197	148	209	- 49	61
22-64	1664	1482	1429	- 182	- 53
65 +	241	325	273	84	- 52
Totals	3258	3321	3185	63	- 136

MADISON

Under 5	560	493	429	- 67	- 64
5-13	903	999	735	96	- 264
14-17	354	327	332	- 27	5
18-21	310	230	258	- 80	28
22-64	3160	2461	1915	- 699	- 546
65 +	711	701	626	- 10	- 75
Totals	5998	5211	4295	- 787	- 916

MEAGHER

AGE CLASS	1950	1960	1970	Difference 1950-1960	Difference 1960-1970
Under 5	198	305	385	107	80
5-13	275	447	646	172	199
14-17	101	160	242	59	82
18-21	91	136	220	45	84
22-64	1184	1281	1616	97	335
65 +	231	287	260	56	- 27
Totals	2080	2616	3369	536	753

MINERAL

Under 5	222	379	581	157	202
5-13	354	626	924	272	298
14-17	118	225	342	107	117
18-21	97	172	304	75	132
22-64	1066	1412	2074	346	662
65 +	224	223	275	- 1	52
Totals	2081	3037	4500	956	1463

MISSOULA

Under 5	3934	5231	7472	1297	2241
5-13	4822	7988	10320	3166	2332
14-17	2117	3245	4905	1128	1660
18-21	2514	3020	5018	506	1998
22-64	19113	21086	25912	1973	4826
65 +	2993	4093	4697	1100	604
Totals	35493	44663	58324	9170	13661

MUSSELSHELL

Under 5	611	552	381	- 59	- 171
5-13	751	912	748	161	- 164
14-17	267	298	301	31	3
18-21	248	206	246	- 42	40
22-64	2888	2222	1870	- 666	- 352
65 +	643	699	566	56	- 133
Totals	5408	4889	4112	- 519	- 777

PARK

Under 5	1264	1345	1608	81	263
5-13	1729	2388	2246	659	- 142
14-17	619	831	974	212	143
18-21	570	630	864	60	234
22-64	6662	6422	6614	- 240	192
65 +	1155	1552	1665	397	113
Totals	11999	13168	13971	1169	803

PETROLEUM

Under 5	128	85	89	- 43	4
5-13	148	167	125	19	- 42
14-17	64	59	47	- 5	- 12
18-21	63	44	50	- 19	6
22-64	533	441	394	- 92	- 47
65 +	90	99	78	9	- 21
Totals	1026	895	783	- 131	- 112

AGE CLASS	1950	1960	1970	Difference 1950-1960	Difference 1960-1970
PHILLIPS					
Under 5	722	739	567	17	- 172
5-13	1091	1171	1071	80	- 100
14-17	389	380	403	- 9	23
18-21	342	293	318	- 49	25
22-64	3170	2647	2387	- 523	- 260
65 +	620	797	683	177	- 114
Totals	6334	6027	5429	- 307	- 598
PONDERA					
Under 5	884	1016	748	132	- 268
5-13	1139	1629	1510	490	- 119
14-17	404	558	697	154	139
18-21	354	407	579	53	172
22-64	3180	3404	3865	224	461
65 +	431	639	744	208	105
Totals	6392	7653	8143	1261	490
POWDER RIVER					
Under 5	341	295	269	- 46	- 26
5-13	415	517	418	102	- 99
14-17	158	156	171	- 2	15
18-21	167	112	139	- 55	27
22-64	1403	1164	973	- 239	- 191
65 +	210	241	218	31	- 23
Totals	2694	2485	2188	209	- 297
POWELL					
Under 5	578	750	805	172	55
5-13	912	1187	1396	275	209
14-17	309	389	473	80	84
18-21	302	336	440	34	104
22-64	3616	3654	3887	38	233
65 +	584	686	716	102	30
Totals	6301	7002	7717	701	715
PRAIRIE					
Under 5	317	249	209	- 68	- 40
5-13	394	477	319	83	- 158
14-17	143	172	169	29	- 3
18-21	131	124	149	- 7	25
22-64	1162	1037	1006	- 125	- 31
65 +	230	258	229	28	- 29
Totals	2377	2317	2081	- 60	- 236
RAVALLI					
Under 5	1346	1152	1197	- 194	45
5-13	2236	2320	1940	84	- 380
14-17	846	856	818	10	- 38
18-21	668	588	604	- 80	16
22-64	6585	5622	4819	- 963	- 803
65 +	1420	1803	1847	383	44
Totals	13101	12341	11225	- 760	-1116

RICHLAND

AGE CLASS	1950	1960	1970	Difference 1950-1960	Difference 1960-1970
Under 5	1340	1377	1126	37	- 251
5-13	1848	2170	1994	322	- 176
14-17	679	725	750	46	25
18-21	631	534	622	- 97	88
22-64	5034	4589	4422	- 445	- 167
65 +	834	1109	1101	275	- 8
Totals	10366	10504	10015	138	- 489

ROOSEVELT

Under 5	1346	1667	1530	321	- 137
5-13	1751	2654	2682	903	28
14-17	624	825	1125	201	300
18-21	583	609	925	26	316
22-64	4564	4875	5613	311	738
65 +	712	1101	1168	389	67
Totals	9580	11731	13043	2151	1312

ROSEBUD

Under 5	840	806	714	- 34	- 92
5-13	1095	1279	1187	184	- 92
14-17	417	428	447	11	19
18-21	384	307	355	- 77	48
22-64	3317	2725	2364	- 592	- 361
65 +	516	643	571	127	- 72
Totals	6569	6188	5638	- 321	- 550

SANDERS

Under 5	734	728	634	- 6	- 94
5-13	1148	1245	1179	97	- 66
14-17	423	451	467	28	16
18-21	360	332	359	- 28	27
22-64	3542	3213	2970	- 329	- 243
65 +	776	912	914	136	2
Totals	6983	6881	6523	- 102	- 358

SHERIDAN

Under 5	772	745	564	- 27	- 181
5-13	1098	1326	1098	228	- 228
14-17	432	419	463	- 13	44
18-21	390	290	353	- 100	63
22-64	3394	2897	2566	- 497	- 331
65 +	589	781	710	192	- 71
Totals	6675	6458	5754	- 217	- 704

SILVER BOW

Under 5	4786	5229	4152	443	-1077
5-13	6872	8423	7943	1551	- 480
14-17	2415	2873	3209	458	336
18-21	2244	2111	2580	- 133	469
22-64	27687	22727	19307	-4960	-3420
65 +	4418	5091	5081	673	- 10
Totals	48422	46454	42272	-1968	-4182

STILLWATER

AGE CLASS	1950	1960	1970	Difference 1950-1960	Difference 1960-1970
Under 5	607	559	461	- 48	- 98
5-13	911	1080	875	169	- 205
14-17	338	376	411	38	35
18-21	282	261	314	- 21	53
22-64	2750	2590	2487	- 160	- 103
65 +	528	660	683	132	23
Totals	5416	5526	5231	110	- 295

SWEET GRASS

Under 5	366	341	269	- 25	- 72
5-13	554	566	469	12	- 97
14-17	223	199	181	- 24	- 18
18-21	200	147	149	- 53	2
22-64	1920	1538	1251	- 382	- 287
65 +	358	499	495	141	- 4
Totals	3621	3290	2814	- 331	- 476

TETON

Under 5	864	858	749	- 6	- 109
5-13	1251	1515	1355	264	- 160
14-17	444	484	531	40	47
18-21	386	348	421	- 38	73
22-64	3773	3362	3155	- 411	- 207
65 +	515	727	717	212	- 10
Totals	7233	7294	6928	61	- 366

TOOLE

Under 5	804	1089	918	285	- 171
5-13	1142	1649	1767	507	118
14-17	402	506	644	104	138
18-21	363	381	549	18	168
22-64	3658	3662	3848	4	186
65 +	498	617	650	119	33
Totals	6867	7904	8376	1037	472

TREASURE

Under 5	202	196	154	- 6	- 42
5-13	247	289	270	42	- 19
14-17	94	84	88	- 10	4
18-21	79	65	77	- 14	12
22-64	671	590	533	- 81	- 57
65 +	109	121	110	12	- 11
Totals	1402	1345	1232	- 57	- 113

VALLEY

Under 5	1425	2684	4465	1259	1781
5-13	2069	3249	6264	1180	3015
14-17	735	1101	1956	366	855
18-21	621	1094	1694	473	600
22-64	5671	7841	12208	2170	4367
65 +	832	1111	1128	279	17
Totals	11353	17080	27715	5727	10635

AGE CLASS	1950	1960	1970	Difference 1950-1960	Difference 1960-1970
		WHEATLAND			
Under 5	362	300	245	- 62	- 55
5-13	491	574	409	83	- 165
14-17	175	194	194	19	--
18-21	158	133	155	- 25	22
22-64	1695	1420	1261	- 275	- 159
65 +	306	406	397	100	- 9
Totals	3187	3027	2661	- 160	- 366
		WIBAUX			
Under 5	231	200	181	- 31	- 19
5-13	352	371	301	19	- 70
14-17	129	113	101	- 16	- 12
18-21	103	76	78	- 27	2
22-64	941	746	608	- 195	- 138
65 +	151	192	179	41	- 13
Totals	1907	1698	1448	209	- 250
		YELLOWSTONE			
Under 5	6767	9992	13178	3225	3186
5-13	8661	15862	20031	7201	4169
14-17	3230	5267	8423	2037	3156
18-21	3180	4109	7519	929	3410
22-64	30145	37956	50272	7811	12316
65 +	3892	5830	7611	1938	1781
Totals	55875	79016	107034	23141	28018

Appendix Table 2. Net Farm to Nonfarm Migration and the Rate of Net Farm to Nonfarm Migration for Counties and for the State of Montana

COUNTY	NET FARM TO NON-FARM MIGRANTS	RATE OF NET FARM TO NONFARM MIGRANTS
Beaverhead	319	15.29
Big Horn	1,682	34.15
Blaine	1,317	33.28
Broadwater	523	39.44
Carbon	1,712	37.24
Carter	468	32.41
Cascade	1,666	47.85
Chouteau	642	18.19
Custer	388	18.17
Daniels	644	34.60
Dawson	1,006	32.61
Deer Lodge	255	48.29
Fallon	554	31.53
Fergus	1,459	27.79
Flathead	1,945	34.67
Gallatin	1,406	26.86
Garfield	305	20.01
Glacier	994	41.01
Golden Valley	205	24.73
Granite	133	15.74
Hill	689	19.05
Jefferson	184	16.35
Judith Basin	571	27.50
Lake	2,221	33.47
Lewis and Clark	490	24.31
Liberty	771	55.35
Lincoln	1,226	59.54
Madison	1,290	40.28
McCone	103	4.78
Meagher	106	13.78
Mineral	218	53.17
Missoula	1,417	47.74
Musselshell	299	27.65
Park	730	29.60
Petroleum	75	13.27
Phillips	678	23.14
Pondera	845	24.02
Powder River	621	28.41
Powell	531	38.56
Prairie	55	5.98
Ravalli	2,019	34.65
Richland	2,057	40.64
Roosevelt	894	26.71
Rosebud	1,203	43.55

COUNTY	NET FARM TO NON-FARM MIGRANTS	RATE OF NET FARM TO NONFARM MIGRANTS
Sanders	1,267	45.12
Sheridan	569	16.93
Silver Bow	340	54.57
Stillwater	925	31.40
Sweet Grass	439	24.13
Teton	1,110	25.11
Toole	86	5.10
Treasure	192	20.08
Valley	1,168	37.16
Wheatland	433	50.94
Wibaux	441	34.32
Yellowstone	2,887	37.80
STATE TOTAL	46,773	30.70

Appendix Table 3. The Observed Labor Force and Projected Labor Force by Age Class for Montana Counties to 1970.

BEAVERHEAD

AGE CLASS	TOTAL LABOR FORCE 1960	PROJECTED TOTAL LABOR FORCE 1970
14-17	112	178
18-24	464	546
25-34	475	570
35-44	569	475
45-64	1205	1196
65 +	242	247
Totals	3067	3212

BIG HORN

AGE CLASS	TOTAL LABOR FORCE 1960	PROJECTED TOTAL LABOR FORCE 1970
14-17	183	188
18-24	427	538
25-34	639	626
35-44	770	629
45-64	1080	1116
65 +	166	171
Totals	3265	3268

BLAINE

14-17	129	124
18-24	302	371
25-34	501	406
35-44	657	519
45-64	973	949
65 +	210	193
Totals	2772	2562

BROADWATER

14-17	48	46
18-24	114	138
25-34	191	197
35-44	207	127
45-64	381	380
65 +	62	58
Totals	1003	946

CARBON

14-17	176	119
18-24	251	305
25-34	515	337
35-44	683	371
45-64	1205	1043
65 +	223	205
Totals	3053	2380

CARTER

14-17	31	27
18-24	115	135
25-34	199	162
35-44	216	150
45-64	369	368
65 +	80	72
Totals	1010	914

CASCADE

14-17	1339	2462
18-24	5247	9828
25-34	6941	9825
35-44	6683	7598
45-64	8451	11058
65 +	1329	1476
Totals	29990	42247

CHOUTEAU

14-17	94	123
18-24	268	446
25-34	519	424
35-44	630	495
45-64	890	1008
65 +	215	187
Totals	2616	2683

CUSTER

14-17	293	334
18-24	730	1060
25-34	964	910
35-44	1053	840
45-64	1598	1663
65 +	321	329
Totals	4959	5136

DANIELS

14-17	76	68
18-24	156	184
25-34	250	191
35-44	308	217
45-64	392	411
65 +	153	154
Totals	1335	1225

DAWSON

AGE CLASS	TOTAL LABOR FORCE 1960	PROJECTED TOTAL LABOR FORCE 1970
14-17	205	321
18-24	610	1120
25-34	1032	1307
35-44	994	1204
45-64	1316	1686
65 +	173	193
Totals	4330	5831

DEER LODGE

AGE CLASS	TOTAL LABOR FORCE 1960	PROJECTED TOTAL LABOR FORCE 1970
14-17	323	416
18-24	577	993
25-34	1088	1198
35-44	1599	1280
45-64	2572	2849
65 +	247	259
Totals	6406	6995

FALLON

14-17	79	96
18-24	192	278
25-34	316	271
35-44	315	298
45-64	389	459
65 +	94	87
Totals	1385	1489

FERGUS

14-17	231	255
18-24	642	932
25-34	926	793
35-44	1169	904
45-64	1827	1854
65 +	376	348
Totals	5171	5086

FLATHEAD

14-17	728	813
18-24	1420	2042
25-34	2089	1966
35-44	2943	2204
45-64	4241	4417
65 +	697	736
Totals	12118	12178

GALLATIN

14-17	510	973
18-24	1768	2511
25-34	1919	2580
35-44	2149	1929
45-64	2849	3319
65 +	591	623
Totals	9786	11935

GARFIELD

14-17	47	45
18-24	103	143
25-34	168	133
35-44	193	129
45-64	224	250
65 +	83	57
Totals	818	757

GLACIER

14-17	164	229
18-24	539	736
25-34	867	1032
35-44	827	862
45-64	1305	1389
65 +	183	219
Totals	3885	4467

GOLDEN VALLEY

14-17	13	11
18-24	24	36
25-34	67	42
35-44	101	67
45-64	123	133
65 +	69	50
Totals	397	339

GRANITE

14-17	62	66
18-24	112	168
25-34	204	252
35-44	298	232
45-64	464	494
65 +	111	105
Totals	1251	1317

HILL

14-17	422	732
18-24	1116	1810
25-34	1579	1883
35-44	1475	1621
45-64	1898	2505
65 +	384	398
Totals	6874	8949

JEFFERSON

14-17	90	89
18-24	105	149
25-34	158	188
35-44	314	265
45-64	494	527
65 +	129	125
Totals	1290	1343

JUDITH BASIN

AGE CLASS	TOTAL LABOR FORCE 1960	PROJECTED TOTAL LABOR FORCE 1970
14-17	36	38
18-24	121	166
25-34	170	151
35-44	218	161
45-64	468	453
65 +	70	63
Totals	1083	1032

LAKE

AGE CLASS	TOTAL LABOR FORCE 1960	PROJECTED TOTAL LABOR FORCE 1970
14-17	280	249
18-24	433	536
25-34	743	616
35-44	980	731
45-64	1658	1531
65 +	314	326
Totals	4408	3989

LEWIS & CLARK

14-17	665	900
18-24	1476	2268
25-34	2309	2666
35-44	2951	2479
45-64	4211	4657
65 +	775	835
Totals	12387	13805

LIBERTY

14-17	42	56
18-24	110	182
25-34	185	202
35-44	254	253
45-64	295	371
65 +	39	37
Totals	925	1101

LINCOLN

14-17	245	416
18-24	544	991
25-34	1023	1459
35-44	952	1207
45-64	1495	2014
65 +	154	189
Totals	4413	6276

MADISON

14-17	147	139
18-24	139	184
25-34	325	232
35-44	401	270
45-64	900	744
65 +	232	207
Totals	2144	1781

McCONE

14-17	52	60
18-24	90	150
25-34	253	189
35-44	318	270
45-64	325	370
65 +	176	148
Totals	1214	1187

MEAGHER

14-17	20	29
18-24	98	184
25-34	173	258
35-44	261	238
45-64	446	580
65 +	67	61
Totals	1065	1350

MINERAL

14-17	76	108
18-24	102	216
25-34	198	346
35-44	254	295
45-64	411	578
65 +	50	62
Totals	1091	1605

MISSOULA

14-17	809	1437
18-24	2884	4593
25-34	3523	4379
35-44	3783	3791
45-64	5362	6616
65 +	823	945
Totals	17184	21761

MUSSELSHELL

14-17	71	70
18-24	179	256
25-34	283	226
35-44	430	257
45-64	619	601
65 +	147	119
Totals	1729	1529

PARK

14-17	277	305
18-24	580	923
25-34	906	984
35-44	1257	1070
45-64	1902	1994
65 +	293	314
Totals	5215	5590

PETROLEUM

AGE CLASS	TOTAL LABOR FORCE 1960	PROJECTED TOTAL LABOR FORCE 1970
14-17	17	13
18-24	36	50
25-34	70	47
35-44	87	56
45-64	132	145
65 +	32	25
Totals	374	336

PHILLIPS

AGE CLASS	TOTAL LABOR FORCE 1960	PROJECTED TOTAL LABOR FORCE 1970
14-17	136	143
18-24	264	303
25-34	458	389
35-44	474	381
45-64	785	766
65 +	263	225
Totals	2380	2207

PONDERA

14-17	209	261
18-24	354	568
25-34	586	664
35-44	592	535
45-64	859	1071
65 +	109	127
Totals	2709	3226

POWDER RIVER

14-17	34	39
18-24	106	143
25-34	213	140
35-44	199	166
45-64	303	276
65 +	71	64
Totals	926	828

POWELL

14-17	60	75
18-24	248	350
25-34	429	477
35-44	560	486
45-64	895	993
65 +	167	174
Totals	2359	2555

PRAIRIE

14-17	122	109
18-24	74	114
25-34	167	157
35-44	172	115
45-64	309	355
65 +	54	48
Totals	898	898

RAVALLI

14-17	250	208
18-24	413	527
25-34	673	566
35-44	841	587
45-64	1865	1729
65 +	397	407
Totals	4439	4024

RICHLAND

14-17	173	159
18-24	462	629
25-34	712	593
35-44	828	629
45-64	1190	1356
65 +	237	235
Totals	3602	3601

ROOSEVELT

14-17	266	366
18-24	573	963
25-34	811	844
35-44	851	820
45-64	1089	1430
65 +	235	249
Totals	3825	4672

ROSEBUD

14-17	140	138
18-24	254	339
25-34	427	334
35-44	548	398
45-64	721	694
65 +	184	163
Totals	2274	2066

SANDERS

14-17	151	144
18-24	259	319
25-34	447	398
35-44	561	496
45-64	966	911
65 +	208	208
Totals	2592	2476

SHERIDAN

14-17	107	118
18-24	259	358
25-34	453	328
35-44	500	368
45-64	762	806
65 +	106	96
Totals	2187	2074

SILVER BOW

AGE CLASS	TOTAL LABOR FORCE 1960	PROJECTED TOTAL LABOR FORCE 1970
14-17	618	688
18-24	1768	2403
25-34	3018	2779
35-44	3798	2523
45-64	6873	6015
65 +	823	821
Totals	16898	15229

STILLWATER

AGE CLASS	TOTAL LABOR FORCE 1960	PROJECTED TOTAL LABOR FORCE 1970
14-17	126	125
18-24	193	273
25-34	317	284
35-44	500	372
45-64	752	822
65 +	122	126
Totals	2010	2009

SWEET GRASS

14-17	67	58
18-24	118	139
25-34	209	150
35-44	253	188
45-64	494	425
65 +	127	126
Totals	1268	1086

TETON

14-17	149	157
18-24	293	406
25-34	464	412
35-44	636	457
45-64	978	1062
65 +	210	207
Totals	2730	2701

TOOLE

14-17	86	113
18-24	344	551
25-34	553	573
35-44	737	601
45-64	961	1121
65 +	166	175
Totals	2847	3134

TREASURE

14-17	22	23
18-24	52	64
25-34	96	79
35-44	83	68
45-64	142	135
65 +	42	38
Totals	437	407

VALLEY

14-17	299	553
18-24	1453	2177
25-34	1608	2843
35-44	1373	2107
45-64	1630	2282
65 +	299	303
Totals	6662	10265

WHEATLAND

14-17	42	41
18-24	103	138
25-34	164	136
35-44	299	192
45-64	466	481
65 +	105	103
Totals	1179	1091

WIBAUX

14-17	29	25
18-24	52	68
25-34	110	78
35-44	144	84
45-64	213	206
65 +	56	52
Totals	604	513

YELLOWSTONE

14-17	1807	3117
18-24	4110	7939
25-34	6741	8685
35-44	8101	9066
45-64	9357	13142
65 +	1427	1863
Totals	31543	43812

Appendix Table 4. The Number of People 25 Years Old and Older in Each Education Class and the Percentage of the Population in Each Education Class, 1940, 1950 and 1960, for Counties in the State of Montana.

BEAVERHEAD

Year	Education Class None	1-4	5 & 6	7	8	9-11	12	13-15	16+	Total
# 1940	47	191	249		1804	648	678	486	271	4374
% 1940	1.07	4.37	5.69		41.24	14.81	15.50	11.11	6.19	99.98
# 1950	35	195	220	200	970	605	955	535	175	3890
% 1950	.90	5.01	5.65	5.14	24.93	15.55	24.55	13.75	4.49	99.99
# 1960	19	162	179	204	838	784	938	543	359	4026
% 1960	.47	4.02	4.45	5.07	20.81	19.47	23.32	13.49	8.92	100.02

BIG HORN

# 1940	201	467	652		1860	723	610	352	182	5047
% 1940	3.98	9.25	12.91		36.85	14.32	12.09	6.97	3.60	99.99
# 1950	135	335	495	405	1195	745	740	355	295	4700
% 1950	2.87	7.12	10.53	8.61	25.42	15.85	15.74	7.55	6.28	99.99
# 1960	101	258	374	410	1031	918	953	368	301	4714
% 1960	2.14	5.47	7.93	8.70	21.87	19.47	20.22	7.81	6.39	100.00

BLAINE

# 1940	159	335	508		1984	683	603	297	144	4713
% 1940	3.37	7.10	10.78		42.09	14.49	12.79	6.30	3.05	99.99
# 1950	110	310	330	375	1240	555	845	415	255	4435
% 1950	2.48	6.99	7.44	8.45	27.96	12.51	19.05	9.36	5.75	99.99
# 1960	40	188	255	253	1051	723	1006	383	204	4103
% 1960	.97	4.58	6.21	6.17	25.62	17.62	24.52	9.33	4.97	99.99

BROADWATER

# 1940	12	80	129		832	340	311	166	91	1961
% 1940	.61	4.08	6.58		42.43	17.73	15.86	8.46	4.64	99.99
# 1950	25	55	80	105	465	260	365	155	90	1600
% 1950	1.56	3.44	5.00	6.56	29.06	16.25	22.81	9.69	5.62	100.00
# 1960		61	53	61	327	332	351	221	87	1493
% 1960		4.09	3.55	4.08	21.90	22.24	23.51	14.80	5.83	100.00

CARBON

Year	Education Class None	1-4	5 & 6	7	8	9-11	12	13-15	16+	Total
# 1940	246	722	796		2622	715	817	391	205	6514
% 1940	3.78	11.08	12.22		40.25	10.98	12.54	6.00	3.15	100.00
# 1950	120	525	580	440	1565	680	1170	460	220	5760
% 1950	2.08	9.11	10.07	7.64	27.17	11.81	20.31	7.99	3.82	100.00
# 1960	63	292	225	264	1337	754	1257	477	276	4945
% 1960	1.27	5.90	4.55	5.34	27.04	15.25	25.42	9.65	5.58	100.00

CARTER

# 1940	10	74	104		894	276	178	151	33	1720
% 1940	.58	4.30	6.05		51.98	16.05	10.35	8.78	1.92	100.01
# 1950	15	55	35	110	435	180	240	150	45	1265
% 1950	1.19	4.35	2.77	8.70	34.39	14.23	18.97	11.86	3.56	100.02
# 1960	4	39	39	77	439	253	277	179	56	1359
% 1960	.29	2.87	2.87	5.67	32.30	18.62	20.38	13.17	4.12	100.00

CASCADE

# 1940	332	1415	1970		8645	3792	4654	2507	1400	24405
% 1940	1.36	5.80	8.07		35.42	15.54	19.07	10.00	5.74	100.00
# 1950	275	1380	1505	1340	6790	4790	8430	3325	2095	29930
% 1950	.92	4.61	5.03	4.48	22.69	16.00	28.17	11.11	7.00	100.01
# 1960	186	1056	1514	1385	6504	6710	12241	4823	3049	37468
% 1960	.50	2.82	4.04	3.70	17.36	17.91	32.67	12.87	8.14	100.01

CHOUTEAU

# 1940	51	213	300		1959	570	616	337	133	4179
% 1940	1.22	5.10	7.18		46.88	13.64	14.74	8.06	3.18	100.00
# 1950	10	180	140	315	1215	590	930	485	225	4090
% 1950	.24	4.40	3.42	7.70	29.71	14.43	22.74	11.86	5.50	100.00
# 1960	16	102	149	183	885	544	1216	559	262	3916
% 1960	.41	2.60	3.80	4.67	22.60	13.89	31.05	14.27	6.69	99.98

CUSTER

# 1940	94	330	414		2327	895	983	555	309	5907
% 1940	1.59	5.59	7.01		39.39	15.15	16.64	9.39	5.23	99.99
# 1950	50	405	450	295	1970	1085	1625	670	360	6910
% 1950	.72	5.86	6.51	4.27	28.51	15.70	23.52	9.70	5.21	100.00
# 1960	91	276	367	329	1648	1205	1886	805	522	7129
% 1960	1.28	3.87	5.15	4.61	23.12	16.90	26.46	11.29	7.32	100.00

DANIELS

Year	Education Class									
	None	1-4	5 & 6	7	8	9-11	12	13-15	16+	Total
# 1940	33	182	245		1086	260	235	204	51	2296
% 1940	1.44	7.93	10.67		47.30	11.32	10.24	8.89	2.22	100.01
# 1950	25	185	160	100	595	210	400	180	65	1920
% 1950	1.30	9.64	8.33	5.21	30.99	10.94	20.83	9.38	3.39	100.01
# 1960	8	133	159	69	534	346	482	216	68	2015
% 1960	.40	6.60	7.89	3.42	26.50	17.17	23.92	10.72	3.37	99.99

DAWSON

# 1940	45	299	414		2028	602	609	424	184	4605
% 1940	.98	6.49	8.99		44.03	13.07	13.22	9.20	4.00	99.98
# 1950	70	295	370	435	1270	725	985	445	220	4815
% 1950	1.45	6.13	7.68	9.03	26.38	15.06	20.46	9.24	4.56	99.99
# 1960	45	211	342	317	1464	950	1685	612	319	5945
% 1960	.76	3.55	5.75	5.33	24.63	15.98	28.34	10.29	5.37	100.00

DEER LODGE

# 1940	214	633	680		2774	1322	1437	598	350	8008
% 1940	2.67	7.90	8.49		34.64	16.51	17.95	7.47	4.37	100.00
# 1950	410	635	720	530	2440	1740	1930	800	400	9605
% 1950	4.27	6.61	7.49	5.52	25.40	18.12	20.09	8.33	4.16	99.99
# 1960	417	493	673	591	2126	2106	2654	1063	539	10662
% 1960	3.91	4.62	6.31	5.54	19.94	19.75	24.89	9.97	5.06	99.99

FALLON

# 1940	33	134	167		857	258	200	138	48	1835
% 1940	1.80	7.30	9.10		46.70	14.06	10.90	7.52	2.62	100.00
# 1950	30	145	120	225	565	245	370	170	35	1905
% 1950	1.57	7.61	6.30	11.81	29.66	12.86	19.42	8.92	1.84	99.99
# 1960	33	47	109	126	599	328	508	167	79	1996
% 1960	1.65	2.35	5.46	6.31	30.01	16.43	25.45	8.37	3.96	99.99

FERGUS

# 1940	86	388	540		3248	1236	1388	688	393	7967
% 1940	1.08	4.87	6.78		40.77	15.51	17.42	8.64	4.93	100.00
# 1950	70	400	550	290	2160	1430	1945	850	420	8115
% 1950	.86	4.93	6.78	3.57	26.62	17.62	23.97	10.47	5.18	100.00
# 1960	70	229	293	345	1765	1241	2279	922	551	7695
% 1960	.91	2.98	3.81	4.48	22.94	16.13	29.62	11.98	7.16	100.00

FLATHEAD

Year	Education Class None	1-4	5 & 6	7	8	9-11	12	13-15	16+	Total
# 1940	107	729	1126		5605	2195	2155	1115	547	13579
% 1940	.79	5.37	8.29		41.28	16.16	15.87	8.21	4.03	100.00
# 1950	110	780	935	1120	4745	3050	4145	1900	855	17640
% 1950	.62	4.42	5.30	6.35	26.90	17.29	23.50	10.77	4.85	100.00
# 1960	78	438	773	940	4294	3306	4989	2100	1059	17977
% 1960	.43	2.44	4.30	5.23	23.89	18.39	27.75	11.68	5.89	100.00

GALLATIN

# 1940	67	281	723		3847	1533	1745	1163	881	10240
% 1940	.66	2.74	7.06		37.57	14.97	17.04	11.36	8.60	100.00
# 1950	50	395	525	495	2755	1725	2585	1895	1485	11910
% 1950	.42	3.32	4.41	4.16	23.13	14.48	21.70	15.91	12.47	100.00
# 1960	27	203	385	483	2216	1864	3344	2292	1956	12770
% 1960	.21	1.59	3.01	3.78	17.35	14.60	26.18	17.95	15.32	99.99

GARFIELD

# 1940	9	78	110		703	156	165	105	48	1374
% 1940	.66	5.68	8.01		51.16	11.35	12.01	7.64	3.49	100.00
# 1950	15	45	90	75	380	170	170	95	35	1075
% 1950	1.40	4.19	8.37	6.98	35.35	15.81	15.81	8.84	3.26	100.01
# 1960	7	25	47	58	322	158	261	145	24	1047
% 1960	.67	2.39	4.49	5.54	30.75	15.09	24.93	13.85	2.29	100.00

GLACIER

# 1940	170	430	466		1493	802	708	359	208	4636
% 1940	3.67	9.28	10.05		32.20	17.30	15.27	7.74	4.49	100.00
# 1950	215	305	355	280	1105	790	1055	550	280	4935
% 1950	4.36	6.18	7.19	5.67	22.39	16.01	21.38	11.14	5.67	99.99
# 1960	48	227	360	270	1000	1125	1410	634	340	5414
% 1960	.89	4.19	6.65	4.99	18.47	20.78	26.04	11.71	6.28	100.00

GOLDEN VALLEY

# 1940	6	65	66		375	132	124	81	27	876
% 1940	.68	7.42	7.53		42.81	15.07	14.16	9.25	3.08	100.00
# 1950	10	40	25	60	210	150	165	85	15	760
% 1950	1.31	5.26	3.29	7.89	27.63	19.74	21.71	11.18	1.97	99.98
# 1960	4	42	13	46	154	97	188	115	26	685
% 1960	.58	6.13	1.90	6.72	22.48	14.16	27.45	16.79	3.80	100.01

GRANITE

ear	Education Class None	1-4	5 & 6	7	8	9-11	12	13-15	16+	Total
1940	19	101	136		873	346	316	168	100	2059
1940	.92	4.91	6.61		42.40	16.80	15.35	8.16	4.86	100.01
1950	10	95	105	110	395	305	400	135	75	1630
1950	.61	5.83	6.44	6.75	24.23	18.71	24.54	8.28	4.60	99.99
1960		45	58	60	412	347	417	282	96	1717
1960		2.62	3.38	3.49	24.00	20.21	24.29	16.42	5.59	100.00

HILL

1940	204	435	608		2739	984	1100	663	327	7060
1940	2.89	6.16	8.61		38.80	13.94	15.58	9.39	4.63	100.00
1950	170	340	520	455	1715	1070	1645	820	360	7095
1950	2.40	4.79	7.33	6.41	24.17	15.08	23.19	11.56	5.07	100.00
1960	119	318	376	465	1770	1639	2625	1245	510	9067
1960	1.31	3.51	4.15	5.13	19.52	18.08	28.95	13.73	5.62	100.00

JEFFERSON

1940	46	125	175		1083	375	355	177	139	2475
1940	1.86	5.05	7.07		43.76	15.15	14.34	7.15	5.62	100.00
1950	180	150	85	135	615	350	360	180	65	2120
1950	8.49	7.08	4.01	6.37	29.00	16.51	16.98	8.49	3.07	100.00
1960	324	103	85	126	496	396	472	203	148	2353
1960	13.77	4.38	3.61	5.35	21.08	16.83	20.06	8.63	6.29	100.00

JUDITH BASIN

1940	30	145	180		817	306	373	175	69	2095
1940	1.43	6.92	8.59		39.00	14.61	17.80	8.35	3.29	99.99
1950	35	65	145	85	425	220	555	190	80	1800
1950	1.94	3.61	8.05	4.72	23.61	12.22	30.83	10.56	4.44	99.98
1960	7	17	28	37	399	250	523	314	124	1699
1960	.41	1.00	1.65	2.18	23.48	14.71	30.78	18.48	7.30	99.99

LAKE

1940	145	442	602		2760	1140	1098	547	239	6973
1940	2.08	6.34	8.63		39.58	16.35	15.75	7.84	3.43	100.00
1950	135	490	430	480	1845	1375	1700	680	415	7550
1950	1.79	6.49	5.69	6.36	24.44	18.21	22.52	9.01	5.50	100.01
1960	79	232	367	380	1846	1301	1771	773	422	7171
1960	1.10	3.23	5.12	5.30	25.74	18.14	24.70	10.78	5.88	99.99

LEWIS & CLARK

Year	Education Class									
	None	1-4	5 & 6	7	8	9-11	12	13-15	16+	Total
# 1940	136	541	730		4823	2033	2570	1472	1027	13332
% 1940	1.02	4.06	5.48		36.18	15.25	19.28	11.04	7.70	100.01
# 1950	130	475	665	555	3230	2370	3715	1915	1300	14355
% 1950	.91	3.31	4.63	3.87	22.50	16.51	25.88	13.34	9.06	100.01
# 1960	65	287	601	740	2655	2318	5055	2147	1641	15509
% 1960	.42	1.85	3.88	4.77	17.12	14.95	32.59	13.84	10.58	100.00
LIBERTY										
# 1940	16	67	93		562	150	178	93	29	1188
% 1940	1.35	5.64	7.83		47.31	12.63	14.98	7.83	2.44	100.01
# 1950	10	30	60	55	365	180	315	100	45	1160
% 1950	.86	2.59	5.17	4.74	31.47	15.52	27.16	8.62	3.88	100.01
# 1960	8	36	41	100	266	180	422	187	53	1293
% 1960	.62	2.78	3.17	7.73	20.57	13.92	32.64	14.46	4.10	99.99
LINCOLN										
# 1940	60	255	356		1874	724	622	319	150	4360
% 1940	1.38	5.85	8.17		42.98	16.61	14.27	7.32	3.44	100.02
# 1950	65	140	330	335	1310	765	1010	335	215	4505
% 1950	1.44	3.11	7.33	7.44	29.08	16.98	22.42	7.44	4.77	100.01
# 1960	16	163	245	422	1456	1406	1664	508	328	6208
% 1960	.26	2.63	3.95	6.80	23.45	22.65	26.80	8.18	5.28	100.00
McCONE										
1940	16	136	200		971	194	173	147	42	1879
1940	.85	7.24	10.64		51.68	10.32	9.21	7.82	2.24	100.00
1950	20	110	145	170	675	170	295	120	30	1735
1950	1.15	6.34	8.36	9.80	38.90	9.80	17.00	6.92	1.73	100.00
1960	5	102	63	127	480	173	434	234	80	1698
1960	.29	6.01	3.71	7.48	28.27	10.19	25.56	13.78	4.71	100.00
MADISON										
1940	35	208	278		1721	676	626	409	194	4147
1940	.84	5.02	6.70		41.50	16.30	15.10	9.86	4.68	100.00
1950	20	170	220	260	895	670	680	435	200	3550
1950	.56	4.79	6.20	7.32	25.21	18.87	19.15	12.25	5.63	99.98
1960	19	55	84	185	692	608	790	371	214	3018
1960	.63	1.82	2.78	6.13	22.93	20.15	26.18	12.29	7.09	99.99

MEAGHER

Year	Education Class None	1-4	5 & 6	7	8	9-11	12	13-15	16+	Total
# 1940	9	68	113		639	186	193	159	62	1429
% 1940	.63	4.76	7.91		44.72	13.02	13.51	11.13	4.34	100.02
# 1950	20	30	115	75	355	155	255	80	65	1150
% 1950	1.74	2.61	10.00	6.52	30.87	13.48	22.17	6.96	5.65	100.00
# 1960	17	17	60	77	391	319	429	96	57	1463
% 1960	1.16	1.16	4.10	5.26	26.73	21.80	29.32	6.56	3.90	99.99

MINERAL

# 1940	22	137	149		475	211	201	109	45	1349
% 1940	1.63	10.16	11.05		35.21	15.64	14.90	8.08	3.34	100.01
# 1950	10	80	95	50	250	185	280	100	100	1150
% 1950	.87	6.96	8.26	4.35	21.74	16.09	24.35	8.70	8.70	100.02
# 1960	4	22	59	69	359	325	485	142	65	1530
% 1960	.26	1.44	3.86	4.51	23.46	21.24	31.70	9.28	4.25	100.00

MISSOULA

# 1940	224	832	1103		5783	2705	2968	1720	1446	16781
% 1940	1.33	4.96	6.57		34.46	16.12	17.69	10.25	8.61	99.99
# 1950	195	850	1075	980	4050	2780	4225	3040	2270	19465
% 1950	1.00	4.37	5.52	5.03	20.81	14.28	21.71	15.62	11.66	100.00
# 1960	170	693	815	915	4187	3796	6499	3058	2880	23013
% 1960	.74	3.01	3.54	3.98	18.19	16.50	28.24	13.29	12.51	100.00

MUSSELSHELL

1940	114	303	362		1284	407	388	243	122	3223
1940	3.54	9.40	11.23		39.84	12.63	12.04	7.54	3.79	100.01
1950	80	225	425	200	795	460	585	220	165	3155
1950	2.54	7.13	13.47	6.34	25.20	14.58	18.54	6.97	5.23	100.00
1960	32	132	224	136	644	402	825	275	134	2804
1960	1.14	4.71	7.99	4.85	22.97	14.34	29.42	9.81	4.78	100.01

PARK

1940	60	275	463		2974	1118	1204	528	269	6891
1940	.87	3.99	6.72		43.16	16.23	17.47	7.66	3.90	100.00
1950	60	170	380	360	2000	1250	1890	750	350	7210
1950	.83	2.36	5.27	4.99	27.74	17.34	26.21	10.40	4.85	99.99
1960	73	149	248	341	1744	1521	2249	826	384	7535
1960	.97	1.98	3.29	4.53	23.15	20.19	29.85	10.96	5.10	100.02

PETROLEUM

ear	Education Class									
	None	1-4	5 & 6	7	8	9-11	12	13-15	16+	Total
1940	11	26	39		275	84	70	78	22	605
1940	1.82	4.30	6.45		45.46	13.88	11.57	12.89	3.64	100.01
1950	5	10	30	45	165	100	150	35	15	555
1950	.90	1.80	5.41	8.11	29.73	18.02	27.03	6.31	2.70	100.01
1960	5	21	17	23	93	102	187	49	23	520
1960	.96	4.04	3.27	4.42	17.88	19.62	35.96	9.42	4.42	99.99

PHILLIPS

1940	46	285	399		1983	552	518	324	140	4247
1940	1.08	6.71	9.39		46.69	13.00	12.20	7.63	3.30	100.00
1950	55	295	265	305	1150	440	720	195	120	3545
1950	1.55	8.32	7.48	8.60	32.44	12.41	20.31	5.50	3.39	100.00
1960	21	152	163	249	924	540	690	325	150	3214
1960	.65	4.73	5.07	7.75	28.75	16.80	21.47	10.11	4.67	100.00

PONDERA

1940	55	194	269		1432	485	525	324	146	3430
1940	1.60	5.66	7.84		41.75	14.14	15.31	9.45	4.26	100.01
1950	35	145	225	185	985	535	735	370	155	3370
1950	1.04	4.30	6.68	5.49	29.23	15.88	21.81	10.98	4.60	100.01
1960	11	83	176	202	966	559	1063	446	288	3794
1960	.29	2.19	4.64	5.32	25.46	14.73	28.02	11.76	7.59	100.00

POWDER RIVER

1940	21	92	165		794	262	186	166	40	1726
1940	1.22	5.33	9.56		46.00	15.18	10.78	9.62	2.32	100.01
1950	10	85	130	175	455	230	250	115	35	1485
1950	.67	5.72	8.75	11.78	30.64	15.49	16.83	7.74	2.36	99.98
1960	7	40	44	91	395	225	312	147	73	1334
1960	.52	3.00	3.30	6.82	29.61	16.87	23.39	11.02	5.47	100.00

POWELL

1940	62	249	331		1583	652	566	277	152	3872
1940	1.60	6.43	8.55		40.88	16.84	14.62	7.15	3.93	100.00
1950	10	220	180	190	1070	700	905	420	180	3875
1950	.26	5.68	4.65	4.90	27.61	18.06	23.35	10.84	4.65	100.00
1960	32	157	164	205	981	842	1101	436	187	4105
1960	.78	3.82	4.00	4.99	23.90	20.51	26.82	10.62	4.56	100.00

PRAIRIE

ear	Education Class									
	None	1-4	5 & 6	7	8	9-11	12	13-15	16+	Total
1940	39	110	154		576	144	149	83	24	1279
1940	3.05	8.60	12.04		45.04	11.26	11.65	6.49	1.88	100.01
1950	20	120	115	115	435	105	225	60	65	1260
1950	1.59	9.52	9.13	9.13	34.52	8.33	17.86	4.76	5.16	100.00
1960	37	79	65	85	302	190	316	122	40	1236
1960	2.99	6.39	5.26	6.88	24.43	15.37	25.57	9.87	3.24	100.00

RAVALLI

1940	76	327	562		3063	1092	1124	629	286	7159
1940	1.06	4.57	7.85		42.79	15.25	15.70	8.79	3.99	100.00
1950	60	325	550	605	2050	1220	1455	680	350	7295
1950	.82	4.46	7.54	8.29	28.10	16.72	19.95	9.32	4.80	100.00
1960	41	195	362	345	1583	1356	1906	812	459	7059
1960	.58	2.76	5.13	4.89	22.43	19.21	27.00	11.50	6.50	100.00

RICHLAND

1940	73	297	500		2365	576	623	412	163	5009
1940	1.46	5.93	9.98		47.22	11.50	12.44	8.23	3.25	100.01
1950	50	320	375	430	1670	610	935	465	225	5080
1950	.98	6.30	7.38	8.46	32.87	12.01	18.41	9.15	4.43	99.99
1960	58	264	306	327	1497	726	1317	603	291	5389
1960	1.08	4.90	5.68	6.07	27.78	13.47	24.44	11.19	5.40	100.01

ROOSEVELT

1940	172	394	519		1983	575	593	367	138	4741
1940	3.63	8.31	10.95		41.83	12.13	12.51	7.74	2.91	100.01
1950	110	340	365	350	1115	570	865	425	255	4395
1950	2.50	7.74	8.30	7.96	25.37	12.97	19.68	9.67	5.80	99.99
1960	57	274	446	319	1337	877	1376	528	275	5489
1960	1.04	4.99	8.13	5.81	24.36	15.98	25.07	9.62	5.01	100.01

ROSEBUD

1940	154	325	325		1284	527	441	237	128	3421
1940	4.50	9.50	9.50		37.53	15.40	12.89	6.93	3.74	99.99
1950	70	260	330	210	885	525	670	365	185	3500
1950	2.00	7.43	9.43	6.00	25.29	15.00	19.14	10.43	5.29	100.01
1960	74	139	167	219	686	586	765	347	172	3155
1960	2.35	4.41	5.29	6.94	21.74	18.57	24.25	11.00	5.45	100.00

SANDERS

Year	Education Class None	1-4	5 & 6	7	8	9-11	12	13-15	16+	Total
# 1940	60	229	304		1646	643	566	296	156	3900
% 1940	1.54	5.87	7.79		42.21	16.49	14.51	7.59	4.00	100.00
# 1950	35	260	305	240	1085	615	840	405	195	3980
% 1950	.88	6.53	7.66	6.03	27.26	15.45	21.11	10.18	4.90	100.00
# 1960	11	122	145	279	981	752	1089	347	215	3941
% 1960	.28	3.10	3.68	7.08	24.89	19.08	27.63	8.80	5.46	100.00

SHERIDAN

# 1940	34	245	326		2185	404	340	298	113	3945
% 1940	.86	6.21	8.26		55.39	10.24	8.62	7.55	2.86	99.99
# 1950	45	235	325	340	1265	335	690	360	115	3710
% 1950	1.21	6.33	8.76	9.16	34.10	9.03	18.60	9.70	3.10	99.99
# 1960	8	124	206	212	1036	480	814	440	156	3476
% 1960	.23	3.57	5.93	6.10	29.80	13.81	23.42	12.66	4.49	100.01

SILVER BOW

# 1940	442	2139	2609		13768	5033	5121	2189	1555	32856
% 1940	1.34	6.51	7.94		41.91	15.32	15.59	6.66	4.73	100.00
# 1950	270	1660	2105	1505	7735	5635	6675	2530	1695	29810
% 1950	.91	5.57	7.06	5.05	25.95	18.90	22.39	8.48	5.69	100.00
# 1960	276	954	1238	1280	6393	5236	7115	2463	1691	26646
% 1960	1.04	3.58	4.65	4.80	23.99	19.65	26.70	9.24	6.35	100.00

STILLWATER

# 1940	26	154	233		1462	408	440	297	91	3111
% 1940	.84	4.95	7.49		46.99	13.11	14.14	9.55	2.93	100.00
# 1950	40	105	145	205	950	450	630	265	145	2935
% 1950	1.36	3.58	4.94	6.98	32.37	15.33	21.47	9.03	4.94	100.00
# 1960	32	84	169	156	774	593	727	387	180	3102
% 1960	1.03	2.71	5.45	5.03	24.95	19.12	23.44	12.48	5.80	100.01

SWEET GRASS

# 1940	24	83	159		975	289	284	218	92	2124
% 1940	1.13	3.91	7.49		45.90	13.61	13.37	10.26	4.33	100.00
# 1950		80	120	135	735	325	340	270	90	2095
% 1950		3.82	5.73	6.44	35.08	15.51	16.23	12.89	4.30	100.00
# 1960	4	37	128	99	541	331	446	254	109	1949
% 1960	.21	1.90	6.57	5.08	27.76	16.98	22.88	13.03	5.59	100.00

TETON

Year	Education Class None	1-4	5 & 6	7	8	9-11	12	13-15	16+	Total
# 1940	43	174	257		1668	537	505	302	164	3650
% 1940	1.18	4.77	7.04		45.70	14.71	13.84	8.27	4.49	100.00
# 1950	25	190	220	275	1190	540	865	410	185	3900
% 1950	.64	4.87	5.64	7.05	30.51	13.85	22.18	10.51	4.74	99.99
# 1960	22	86	143	192	983	609	1142	426	220	3823
% 1960	.58	2.25	3.74	5.02	25.71	15.93	29.87	11.14	5.75	99.99

TOOLE

# 1940	28	158	256		1432	647	683	392	157	3753
% 1940	.75	4.21	6.82		38.16	17.24	18.20	10.44	4.18	100.00
# 1950	15	145	175	190	975	630	1010	435	220	3795
% 1950	.40	3.82	4.61	5.01	25.69	16.60	26.61	11.46	5.80	100.00
# 1960	36	77	146	170	814	697	1284	530	247	4001
% 1960	.90	1.92	3.65	4.25	20.34	17.42	32.09	13.25	6.17	99.99

TREASURE

# 1940	24	51	44		318	122	93	86	22	760
% 1940	3.16	6.71	5.79		41.84	16.05	12.24	11.32	2.89	100.00
# 1950	15	55	55	40	160	95	170	95	25	710
% 1950	2.11	7.75	7.75	5.63	22.54	13.38	23.94	13.38	3.52	100.00
# 1960	17	30	26	29	138	117	214	58	30	659
% 1960	2.58	4.55	3.95	4.40	20.94	17.75	32.47	8.80	4.55	99.99

VALLEY

# 1940	99	431	638		3276	1106	1136	690	318	7694
% 1940	1.29	5.60	8.29		42.58	14.38	14.77	8.97	4.13	100.01
# 1950	70	335	385	435	1700	845	1255	545	310	5880
% 1950	1.19	5.70	6.55	7.40	28.91	14.37	21.34	9.27	5.27	100.00
# 1960	32	282	287	373	1762	1402	2346	994	455	7933
% 1960	.40	3.55	3.62	4.70	22.21	17.67	29.57	12.53	5.74	99.99

WHEATLAND

# 1940	9	76	120		803	291	315	169	93	1876
% 1940	.48	4.05	6.40		42.80	15.51	16.79	9.01	4.96	100.00
# 1950	15	120	115	65	460	235	430	270	110	1820
% 1950	.82	6.59	6.32	3.57	25.27	12.91	23.63	14.84	6.04	99.99
# 1960	28	43	53	76	415	298	479	256	98	1746
% 1960	1.60	2.46	3.04	4.35	23.77	17.07	27.43	14.66	5.61	99.99

WIBAUX

Year	Education Class									
	None	1-4	5 & 6	7	8	9-11	12	13-15	16+	Total
# 1940	24	84	106		547	126	150	62	23	1122
% 1940	2.14	7.49	9.45		48.75	11.23	13.37	5.53	2.05	100.01
# 1950	5	25	50	85	470	135	195	70	25	1060
% 1950	.47	2.36	4.72	8.02	44.34	12.74	18.40	6.60	2.36	100.01
# 1960		59	39	24	297	110	206	108	49	892
% 1960		6.61	4.37	2.69	33.30	12.33	23.09	12.11	5.49	99.99

YELLOWSTONE

# 1940	380	1271	1651		7794	3378	4425	2544	1286	22649
% 1940	1.68	5.61	7.29		34.41	14.91	19.54	11.23	5.68	100.00
# 1950	340	1525	1865	1670	6460	4180	7515	4460	2460	30250
% 1950	1.12	5.04	6.16	5.52	21.36	13.82	24.84	14.74	8.13	99.99
# 1960	297	1181	1478	1584	7594	6112	12518	6095	4230	41187
% 1960	.72	2.87	3.59	3.85	18.44	14.84	30.40	14.80	10.27	100.01

Gaylord
SPEEDY BINDER
Syracuse, N. Y.
Stockton, Calif.